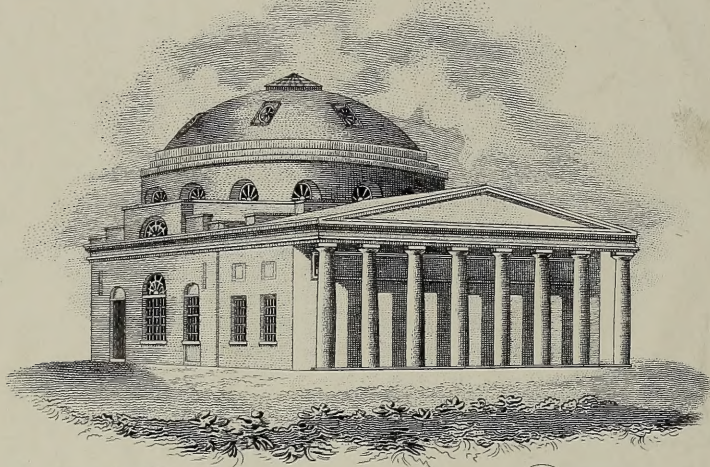
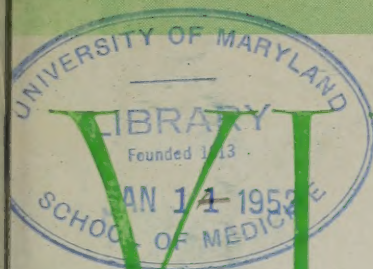


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VIRGINIA

MEDICAL MONTHLY

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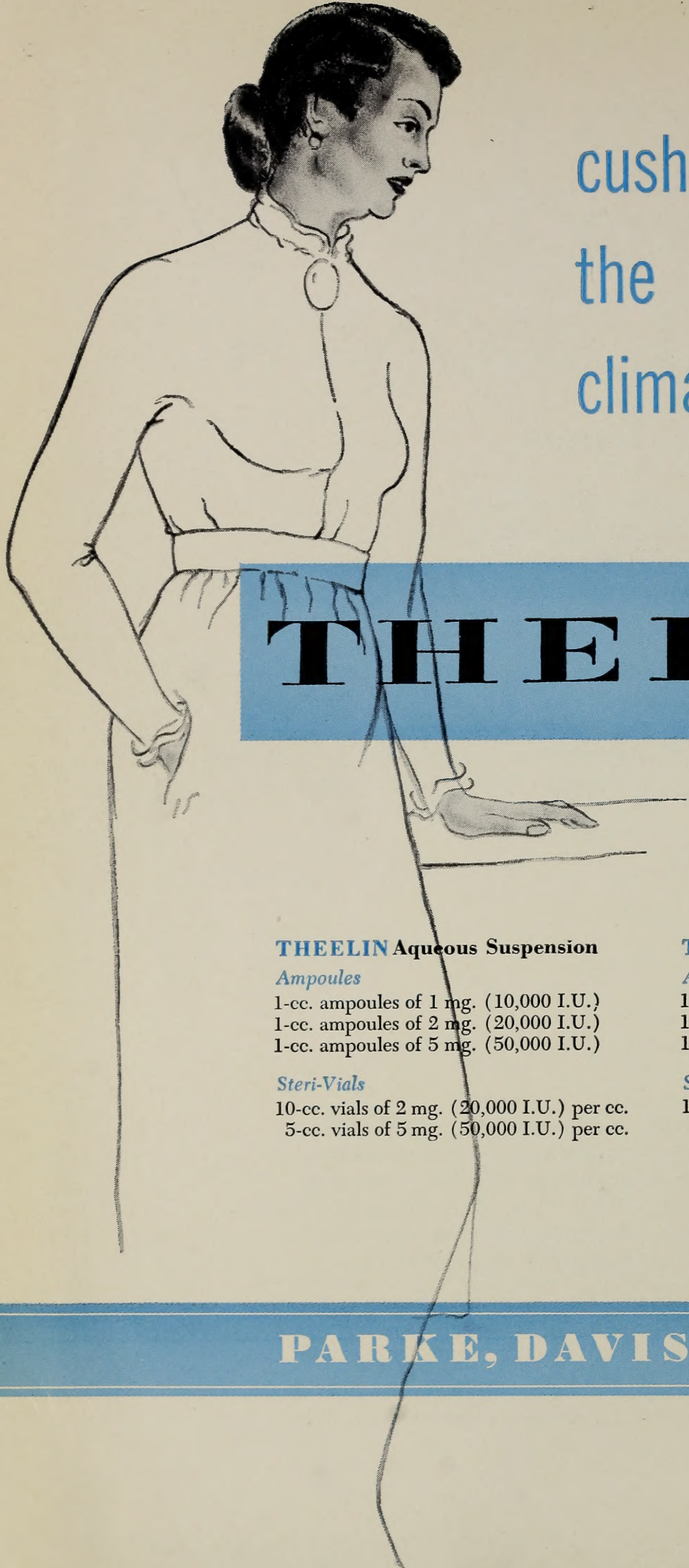
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A black and white line drawing of a woman in profile, facing right. She has dark hair styled in a bun. She is wearing a high-collared, long-sleeved dress with a belt at the waist. The dress has a decorative circular element at the collar. The background is a light beige color.

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Medical Society of Virginia Cancer Committee

Chairman, GEORGE COOPER, JR., M. D.

Albemarle Hotel Building, Charlottesville, Virginia

Reprints of this and preceding Bulletins may be obtained from this office

January 1, 1952

Tumors of the Central Nervous System

Tumors of the Central Nervous System

In so far as early diagnosis is concerned, distinction between benign and malignant tumors of the central nervous system can and should be disregarded. Early recognition is equally important and the initial treatment the same — surgical removal.

Delay in diagnosis increases operative risk and **permits irreparable damage** to the delicate nervous tissue, with such sequelae as permanent loss of vision and loss of motor and sensory function, **even though the tumor can be completely removed.**

DIAGNOSIS

A 28 year old man was hospitalized, complaining of progressive loss of vision, headaches, and weakness of the left side of the body of about six months duration. For the past TWO YEARS, the patient had had convulsions which always started in the left foot. At operation a large tumor was removed from the right cerebrum. The weakness in the left side of the body disappeared but the patient DID NOT RECOVER HIS VISION.

The symptom complex of headache, nausea, vomiting, and papilledema is **not** early evidence of the presence of a brain tumor. It is evidence that increased intracranial pressure has been produced by a space consuming lesion within the skull. A hopeful prognosis and low morbidity can be achieved only if tumors are recognized and removed before they have caused increased intracranial pressure.

In the presence of any **one** of the following,

- (1) repeated, unexplained attacks of vomiting in children,
- (2) headache of progressive severity in either children or adults,
- (3) convulsions after the age of 25, and

(4) progressive loss of vision at any age, a brain tumor should be suspected and a neurosurgeon consulted.

A 36 year old man was admitted with paraplegia of five days duration at the sixth thoracic level. Motor and sensory loss were complete and the sphincters paralyzed. The legs had been weak and numb for one week before admission. He had had upper dorsal girdle pain for TWO MONTHS and pain in the upper dorsal spine for THREE MONTHS. Operation immediately after admission revealed a tumor which was completely removed from the spinal canal. The patient recovered from surgery nicely, but THE PARAPLEGIA PERSISTED.

Paralysis is **not** evidence of a spinal cord tumor. In the presence of one or more of the following,

- (1) unexplained back pain,
- (2) root pain,
- (3) progressive weakness of one or more extremities, a cord tumor should be suspected and a neurosurgeon consulted.

In fact, tumor is the first consideration in the presence of slowly progressive impairment of any central nervous system function.

COMMENT: Central nervous system tumors are neither rare nor hopeless. **Over 60% can be completely removed. The operative mortality in brain surgery is just under 10% and still declining. In spinal cord surgery, the operative mortality is practically zero.** In the tumors that can be completely removed, the surgical result depends entirely on how much nerve tissue damage has been done—on how promptly the presence of a tumor was recognized.

Medical Society of Virginia Cancer Committee

Chairman, George Cooper, Jr., M. D.

Secretary, John D. H. Thompson, M. D.

Minutes of this and preceding meetings may be obtained from this office

January, 1962

Tumors of the Central Nervous System

(1) Progressive loss of vision of one eye.
A brain tumor should be suspected and a neurosurgeon consulted.

A 55 year old man was admitted with par-
alysis of five days duration of the left in-
trinsic level, motor and sensory loss were com-
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fore admission. He had had upper dental
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the upper dental area for THREE MONTHS.
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Paralysis is not evidence of a spinal cord
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following:

- (1) Unexplained back pain.
- (2) Foot pain.
- (3) Progressive weakness in one or more

extremities, a cord tumor should be suspected
and a neurosurgeon consulted.

In foot tumor is the last consideration in
the presence of slowly progressive weakness
in one or more extremities.

COMMENT: Central nervous system tu-
mors are neither rare nor frequent. Over 50%
can be completely removed. The majority
mortality in brain surgery is just under 10%
and still declining. In spinal cord surgery,
the operative mortality is practically zero.
In the future, the use of completely re-
moved the surgical approach, the use of
but high quality care, the use of a high
level of care, the use of a high level of care,
and the use of a high level of care.

Tumors of the Central Nervous System
It is so far as early diagnosis is concerned,
distinction between benign and malignant tu-
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should be distinguished. Early recognition is
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Early in diagnosis increases operative risk
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February 1, 1952

Cancer of the Uterus

Cancer of the cervix comprises 25 per cent of all cancer in women, occurring between five and six times as frequently as cancer of the corpus. The highest incidence of cervical carcinoma is in the fifth decade. Ninety per cent of the patients are parous women, and in this group only 13 per cent are primipara. The earliest symptoms are leukorrhea and abnormal vaginal bleeding. The earliest manifestation is usually a bloody uterine discharge.

Prophylaxis: Since chronic irritation is known to encourage the development of cancer, prophylaxis consists, first, in periodic pelvic examinations to discover causes of chronic irritation, and, second, in their prompt correction. Repair of birth injuries, treatment of cervicitis, cervical erosions and polyps, corrections of menstrual irregularities and faulty uterine drainage whenever possible, all increase the individual's chance to escape cancer of the uterus.

The mother of three children had been under one physician's care for many years. He had delivered her babies, and six months after each birth he had corrected minor pelvic abnormalities. Though his services had been required on various other occasions, no other vaginal examinations had been done. When the woman was 37 and her youngest child 3, she sought his advice after 5 months of leukorrhea and intermenstrual spotting. Examination of the cervix revealed a fungating tumor, involving the upper vaginal wall. The uterus was partially fixed, and the right parametrium thickened. The biopsy report was epidermoid carcinoma, grade III.

Unlike most skin cancer, carcinoma of the cervix is not on the body surface where the patient can see it in its earliest stage. But it is in a spot where the physician can see it in its earliest stage. Like most cancer of all kinds, the earlier carcinoma of the cervix is discovered, the greater the chance for cure. **Only the physician can check the havoc wreaked by this disease on appalling numbers of young and middle aged mothers.** His responsibility is clear. He should encourage

all his female patients over 30 to have a pelvic examination at least once a year, preferably twice a year, and should insist that all his parous patients be examined twice a year. **An average of less than two patients a year is being referred to the tumor clinics certificated by this Committee with cancer still confined to the cervix!** There can be but one reason—pelvic examinations are seldom being done in the absence of specific pelvic complaints.

Diagnosis: A 40 year old woman sought medical attention when she flowed four days longer than usual. The doctor refused to examine her, instructing her to return when the flow had ceased. It persisted, and, taking him too literally, she did not return for seven weeks. Examination then revealed a cervical carcinoma which had extended into the fornix and parametrium on one side.

Do not refuse to examine the cervix and uterus because a patient is flowing. A perfectly satisfactory examination is possible. When the patient has been flowing excessively or too long, examination should be done at once, for often the source can be more readily determined when the bleeding is actually taking place.

* * * *

A 30 year old multipara suffered, in the last three months of pregnancy, from a moderate, bloody vaginal discharge which was assumed to be due to partial placenta praevia. When she went into labor at term, an extensive carcinoma of the cervix was discovered.

When dealing with vaginal bleeding, never assume anything. Determine the cause at once.

* * * *

A physician cauterized, without biopsy, a cervical "erosion." When the "erosion" persisted and spread into the fornix, a biopsy was taken. The report was epidermoid carcinoma.

Pathological study of tissue biopsies and cell smears is the only certain method of

diagnosing and eliminating the possibility of cancer of the cervix. Employ both techniques on slightest suspicion.

* * * *

A 32 year old woman had a bloody vaginal discharge for four weeks. Without further ado, a supravaginal hysterectomy was performed. Imagine the surgeon's consternation when the pathologist reported a squamous cell carcinoma of the uterus. Examination of the cervical stump disclosed a fungating tumor involving the upper third of the vaginal walls.

A 55 year old woman (8 years post menopause) complaining of a thin, bloody, vaginal discharge of three weeks' duration was found on pelvic examination to have large uterine fibroids. A supravaginal hysterectomy was done. The pathologist confirmed the diagnosis of fibromyomata but also discovered an adenocarcinoma of the endometrium.

About 25 per cent of patients with corpus cancer have associated fibromyomas, but fibromyomas do not cause post-menopausal bleeding. Patients who give a history of post-menopausal bleeding should have a diagnostic curettage and pathological examination of the scrapings because the majority of such patients have cancer of the corpus.

A 48 year old woman was advised to have her ovaries radiated because of "menopausal

bleeding." The roentgenologist fortunately insisted on diagnostic curettage. Pathological examination of the curettings revealed epidermoid carcinoma.

* * * *

Never plan, much less carry out, treatment for vaginal bleeding until a diagnosis has been established.

In the presence of vaginal bleeding, and routinely before uterine surgery, do a careful pelvic examination and inspect the cervix in a good light. Take biopsies from any suspicious areas. If the cause of bleeding is not discovered in the cervix, dilate it and have sections run on material obtained by thorough curetting. Until these procedures are carried out, the surgeon has not estimated uterine pathology with sufficient accuracy to plan treatment intelligently. Many gynecologists now include a study of cell smears in their routine work-ups.

Treatment: Cancer, confined to the cervix, may be treated by radium and x-ray in adequate dosage, or, in selected cases, by radical surgery. Selected early cases of corpus cancer can best be handled by radical surgery plus radiation. More advanced and surgically ineligible cases of both corpus and cervix cancer should receive combined radium and x-ray therapy.

When in doubt, consult an expert.

PERIODIC PELVIC EXAMINATIONS SAVE LIVES!

DO YOU DO THEM?

Medical Society of Virginia Cancer Committee

Chairman, GEORGE COOPER, JR., M. D.

Albemarle Hotel Building, Charlottesville, Virginia

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March 1, 1952

Rectal and Prostatic Carcinoma

A patient referred for treatment of hemorrhoids to one of the hospitals certificated by your Committee to care for indigent cancer patients was found, on rectal examination, to have, in addition to hemorrhoids, an easily palpable carcinoma of the rectum. According to the patient, a rectal examination had not previously been done. Two other patients presented themselves at clinics in these hospitals because of rectal bleeding which persisted after hemorrhoidectomy. These patients had actually had hemorrhoidectomies without rectal examination! Both had carcinomas of the rectum in easy reach of the palpating finger.

The digital rectal examination is just as essential a part of a physical examination as a blood pressure determination. The physician who omits it does justice neither to his patient nor to himself. He becomes unskilled in its interpretation, and through habitual neglect of the rectum, commits such absurd oversights as those described above. To limit one's examination, in the presence of rectal bleeding, to inspection of the anus is as ridiculous as to be content with inspection of the lips when confronted with hemoptysis.

Age Incidence of Cancer of the Rectum: highest in 6th decade, but over 4% in 3rd decade, and an occasional case in persons under 20.

Early Symptoms:

- (1) Sudden change in bowel habit
- (2) Bleeding from the rectum
- (3) Mucus
- (4) Pelvic pressure

Diagnosis:

- (1) Digital palpation (60% of early cancers can be palpated)
- (2) Proctoscopic examination
- (3) Biopsy
- (4) X-ray barium enema, if necessary

Treatment of Early Cancer of the Rectum: Colostomy and resection of the rectum. Radical surgery in an early stage of the disease is the only hope of cure.

It has been estimated that at least 20% of men who live beyond the age of 50 develop

cancer in the prostate. Only those have a chance for cure who are fortunate enough to have their lesion discovered early while the growth is still confined within the capsule of the gland. In males, routine digital examination of the rectum has the tremendously important advantage of affording opportunity to palpate the prostate. This is the **only** way to discover prostatic cancer early. **By the time any symptoms have developed, the growth has practically always broken through the capsule,** limiting treatment to palliative measures. Therefore, general practitioners who make it a habit to do a rectal examination on all their male patients beyond the age of 50 are usually the only ones who discover early carcinoma of the prostate. Unfortunately, routine rectal examinations are so frequently omitted that few patients are seen by the urologists before extension and metastasis have taken place. Encourage your male patients over 50 to have a physical examination at least once a year, and palpate their prostates carefully for firm nodules or areas of induration.

Early Symptoms of Prostatic Cancer: None.

Diagnosis: Digital palpation — on slightest suspicion refer your patient to a competent specialist for complete study.

Treatment of Carcinoma Confined Within the Capsule of the Prostate: Depends on life expectancy. Complete removal of the gland offers the only hope of cure. When the prostate is completely and properly removed, in the absence of metastases or extension, the prognosis is good.

Many persons who have died of carcinoma of the rectum and carcinoma of the prostate might have been saved by early diagnosis and prompt surgery. Since a number no doubt died of these diseases undiagnosed and others were probably not reported, our statistics are incomplete, but in 1943, 83 deaths from carcinoma of the rectum were reported in Virginia, 131 from carcinoma of the prostate, a total of 214.

USE YOUR FINGER TO REDUCE THIS FIGURE!



Medical Society of Virginia Cancer Committee

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April 1, 1952

Case Reports

Dr. Daniel Laszlo and his associates of Montefiore Hospital, New York, reported the following history in the October, 1950, issue of the *Annals of Internal Medicine*.

A 69 year old female was admitted to Montefiore Hospital after having been under medical observation and treatment for eight years for "an indolent varicose ulcer." Her story was that a scratch just above the right ankle developed into an ulcer which had slowly enlarged, in spite of a variety of treatments for varicose ulcer, until after eight years, the lesion covered one-third of the lateral aspect of the leg and smaller portions of the posterior and medial aspects. The area was deeply excavated, its edges were raised and pearly, there were enlarged right inguinal and femoral glands, and there were no varicosities of either extremity. During the past six months, there had been a 35 pound weight loss.

At Montefiore Hospital, multiple biopsy specimens were taken from various portions of the ulcer. These were the first biopsies which had been taken! Histologic examination revealed basal cell carcinoma in every specimen. An inguinal gland removed for biopsy showed only chronic lymphadenitis.

An excision of the entire ulcer, including its fascial base, was performed. The defect was covered by a split thickness graft, with a 90 per cent take. Pinch grafts later completed the job, and the patient was discharged in excellent condition.

The authors included three other similar histories in the same report. In each instance, the patient was referred to Montefiore Hospital with a diagnosis of ulcer of the leg, one after four years of treatment, one after three years, and the other after several months. No biopsy specimens had been taken. Biopsies taken at Montefiore Hospital revealed carcinoma, two squamous cell, one basal cell. Two of the patients required amputation, one only an excision and graft. All were treated successfully.

Comment: As Dr. Laszlo points out, "the lesson which these cases teach us is the need for securing diagnosis prior to any therapy . . .

Biopsy of a superficial lesion is certainly one of the easiest procedures in medicine."

In most of the case histories criticized unfavorably in these Bulletins, omission of a simple diagnostic procedure has been the reason for avoidable delay in the diagnosis and treatment of various forms of cancer.

Omission of the taking of biopsy specimens is not only poor medicine, in the long run it wastes the time the busy physician seeks to save by this dangerous short-cut, and a good deal more time besides. In the four cases cited above, biopsies early in the development of the ulcers would have established the true diagnoses while the lesions were amenable to far simpler surgical procedures or even to radiation. Because biopsies were omitted, hours upon hours of physician time were completely wasted in futile treatments for mistaken diagnoses. Also the patients endured months and years of needless physical and financial drain, and finally had to undergo extensive surgery.

In Virginia, the Health Department will furnish containers for mailing tissue specimens to any physician who is not immediately accessible to a pathologist. Containers can also be purchased in most drug stores. The physician may mail his specimens to whichever certificated pathologist in the State he chooses. The cost of pathological examination for medically indigent patients will be borne by the State Health Department, by special arrangement between the Bureau of Cancer Control and the pathologists. There is no geographic or economic reason for any Virginia physician not to take as many biopsy specimens as he chooses. Inquiries concerning this service should be addressed to Dr. Mason Romaine, Director, Bureau of Cancer Control, State Health Department, Richmond, Virginia.

Medical Society of Virginia Cancer Committee

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May 1, 1952

Case Reports

CASE I.

A 34 year old woman asked advice concerning a growing lump in the left breast. It had been growing slowly for the past two years. When her last child was born six months before, she had pointed it out to her physician. He told her that it was of no consequence, to forget it. But since then, a lump had developed in the axilla, she had lost a little weight, and occasionally she had had a sharp pain in the mass, with radiation to the axilla.

On examination, the mass was in the upper outer quadrant of the left breast 2 cm. from the nipple, still measured only 2 x 1 cm., was not attached to the skin, but was almost stony hard. Two small, firm nodes were palpable in the axilla. There was nothing elsewhere suggestive of metastasis.

Frozen section of a biopsy of the breast mass taken in the operating room was reported as carcinoma. Radical mastectomy was performed at once. On pathological examination, the axillary nodes were found to contain carcinoma also.

Comment: The survival rate for cancer of the breast without metastasis is about 75 per cent, with regional metastasis it drops to about 25 per cent, with distant metastasis, almost to 0. The discovery of a solitary mass in the breast is, therefore, a medical emergency, demanding immediate attention by a surgeon capable of performing a radi-

cal mastectomy should cancer be found at biopsy.

Yet here is an instance in which a woman watched a cancer of the breast grow for two years, during which time regional metastases appeared. Six months of that delay was the result of medical advice. Two years later, she has regional skin metastases.

CASE II.

A 37 year old woman, the wife of a physician, *five years ago* found a small mass in the upper outer quadrant of her right breast. Biopsy was performed the next day. The pathologist reported malignancy in the frozen section. A radical mastectomy was done at once. No metastases could be found. The patient is today free of recurrence or metastasis.

CASE III.

Several weeks ago a 40 year old woman, after seeing the film, "Breast Self-Examination," was moved to consult her physician about a pea-sized nodule she had recently discovered in one of her breasts. Malignancy was found in the biopsy specimen and a radical mastectomy has been performed. No metastases were found, so her chance of cure is good.

Comment: Cancer can be found early, it can be cured, lay education is important in the discovery of early, curable cancer.

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June 1, 1952

Case Reports

A 46 year old woman who had had menstrual difficulties for about 18 months developed irregular, severe vaginal bleeding. Soon after her trouble began, she had consulted her physician. He did a pelvic examination and told her she had uterine fibroids and was entering the menopause. He had followed her since. When the severe bleeding occurred, he referred her to a surgeon with a report of the findings of his pelvic examination done about 15 months before. Without rechecking the patient, the surgeon performed a supracervical hysterectomy. Multiple uterine fibroids were present, but the pathologist also found a carcinomatous extension into the uterus across the line of amputation. A pelvic examination was then done. There was an erosion of the cervical stump and the left parametrium was thickened and shortened. Biopsies from the cervix showed carcinoma.

Dr. Charles Hendricks of the Ohio State University College of Medicine presented an interesting series of cases in the Journal of the American Medical Association (May 12, 1951). In a period of ten years, he had encountered 28 cases of carcinoma of the cervical stump, 11.6 per cent of the total number of cases of carcinoma of the cervix seen in that time. In 22 cases, the onset of clinically evident carcinoma occurred from five to 35 years after the subtotal hysterectomy. In 6 cases, the subtotal hysterectomy was

performed when the patient already presumably had clinically recognizable carcinoma of the cervix. The stated indication for surgery was either uterine hemorrhage or fibroids. Of these six patients, only one had a preoperative biopsy of the cervix, and she was operated upon before the pathologist examined the specimen. Pathological examination of the operative specimen established the diagnosis of carcinoma in two of the other five cases, and biopsy specimens from the cervical stump were taken because of persistent postoperative bleeding in the remaining three. To quote Dr. Hendricks, "the first thought in the treatment of vaginal bleeding should not be hysterectomy but the accurate diagnosis of the primary pathology." Pelvic examination, including inspection of the cervix, and cervical biopsy are simple office procedures which are easily included in every physician's routine. Dilation and curettage prior to pelvic laparotomy are routine diagnostic procedures in many institutions. Through the Bureau of Cancer Control of the State Health Department, containers for mailing specimens to a pathologist can be supplied. Also, the Bureau will reimburse certificated pathologists for services to the medically indigent.

In connection with the 22 cases of carcinoma of the cervical stump developing years after the subtotal hysterectomy, Dr. Hendricks commented that in cases where no significant additional surgical risk is involved, total hysterectomy is the operation of choice in the treatment of benign uterine disease.

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July 1, 1952

Case Reports

A 37 year old man had been vaguely aware of a feeling of heaviness in the right testicle for several months. Then overnight the testicle became swollen and tender. He sought medical advice, was told he had an epididymitis, and was given sulfonamides. The swelling and pain gradually diminished during the next six weeks. Then there was another sudden exacerbation, and he was referred to a urologist. Full investigation revealed only diffuse swelling of the right testicle, which was not adherent to the scrotum and which would not transilluminate. Surgery was advised. After an inguinal exposure, the cord was clamped and the testicle examined. It was hemorrhagic and a firm nodule was found in its lower portion, whereupon the cord was ligated and the cord and testicle were removed. The pathological examination revealed a seminoma. Postoperative radiation was given and the patient is well with no evidence of recurrence three and one half years later.

Comment: Unfortunately there are no pathognomonic symptoms of a testicular tumor. While a progressive painless swelling is often the initial symptom, not infrequently the history is of a mild, non-progressive swelling of many weeks' or months' duration which has recently begun to progress, or sometimes of heaviness only. The patient may discover a painless hard lump in a testicle. A history of trauma followed by swelling is not uncommon. Pain is usually late, being produced by distension of the capsule by hemorrhage or growth of the tumor. A hemorrhage may be followed by atrophy so that the affected testicle becomes smaller than the normal one. Then again painful or palpable metastases may be discovered before there is any evidence of change in the testicle itself. Hydrocele and epididymitis are complications which may obscure the underlying tumor. The most frequent medical error is the one cited in the history given above — the confusion of tumor and inflammatory lesions. Though this particular patient is probably cured, he should have

had his operation after the first, not the second, exacerbation, both of which were presumably due to hemorrhage.

Ole Jensen of Seattle reported five case histories in the May 10, 1952, issue of the J.A.M.A. In the first case, the patient gave a history of sudden onset of testicular pain and swelling, was treated for epididymitis, and later found to have an embryonal carcinoma. In the second, a small painless nodule at the base of a testicle which had been present without change for two years, proved to be a teratoma with adenocarcinoma. In the third, a seminoma was found in a testicle which had been slowly growing smaller for three years. In the fourth, after a sudden attack of pain and swelling, the testicle got quite hard and stayed that way for four weeks. However, the pathological examination revealed hemorrhagic infarction of the testicle and epididymis with complete destruction but no tumor. In the fifth case, a painless growing testicular lump proved to represent an epidermoid cyst. The fact that a testicle containing a benign tumor was removed is no cause for regret. Tumors of testicular origin must all be regarded as potentially malignant. In spite of their histologically innocent appearance, some fully differentiated testicular tumors have been observed to metastasize both regionally and distally.

Since accurate diagnosis is possible only by histological means, all scrotal masses should be considered malignant until proven otherwise. Exploration is frequently necessary for diagnosis and entirely justified. However, biopsy should not be relied upon. An enlarged, hard, or nodular testicle should simply be removed, together with as much of the cord as can be reached through an inguinal exposure.

In addition, a diagnosis of epididymitis or orchitis should be made with caution and reluctance. Such cases should be followed most carefully with the possibility of underlying tumor constantly in mind.

Medical Society of Virginia Cancer Committee

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September 1, 1952

Case Reports

A 42 year old primipara, in labor, was referred to a hospital for delivery by the physician from whom she had received prenatal care. On digital rectal examination an undilated, irregularly thickened cervix was palpated. It felt so abnormal that a sterile vaginal examination was performed at once. An extensive fungating tumor was discovered. The biopsy report (frozen section) was carcinoma of the cervix. A Caesarean section and radical hysterectomy were performed. The surgery was followed by a course of radiation therapy. One year later, a second course of radiation was given because of extensive parametrial invasion. The outlook is hopeless.

A 34 year old multipara, in labor, was referred to a hospital for delivery by the physician who had delivered her other children. He sent word that the foetus had died and the mother had started bleeding during a long, hard labor. A nodular cervix was palpated rectally. On sterile vaginal examination, a hard, fungating, bleeding cervix was found. The biopsy report (frozen section) was carcinoma. A radical hysterectomy was performed, but the patient died on the seventh postoperative day of pulmonary embolism.

A staff physician of one of the certificated Tumor Clinics recently reported that he had discovered a League of Nations I carcinoma of the cervix in a 36 year old multipara whom he had delivered six weeks previously. He had inspected the cervix carefully during pregnancy and felt confident that there had been no visible lesion until his routine six weeks postpartum check-up. Because the patient was obese, X-ray therapy and local application of radium were elected rather than a Wertheim type operation.

Comment: A review of 4,652 cases of carcinoma of the cervix (Sagudor et al, Am. J. Ob. & Gyn., May '49.) showed 124 or 2.6 per cent were pregnant or had been pregnant within one year preceding admission.

In 22 per cent of these 124 cases, the carcinoma occurred before the age of 30, in 62 per cent between 30 and 40, and in 15 per cent after 40.

Regardless of the exact incidence of cervical cancer during and shortly after pregnancy, *a vaginal examination should be performed on the pregnant patient's first visit to the doctor, under sterile precautions if seen in the last 6 weeks.*

All patients showing any abnormal symptoms during pregnancy should have a thorough vaginal examination, regardless of the stage of pregnancy and even if placenta previa is suspected.

All postpartum cases should be scheduled for regular, routine, repeated, complete pelvic examinations. When a physician accepts a patient for delivery, he accepts responsibility for postpartum care.

Observance of these essential rules will make impossible tragic oversights such as those noted above in the first two case reports. It will increase the high type professional performance cited in the third case report.

During the past five years, the number of League of Nations I carcinoma of the cervix referred to the Tumor Clinics certificated by this Committee has averaged less than four a year! However, this is twice as high an average as recorded during the preceding five years.

Medical Society of Virginia Cancer Committee

Chairman, George Cooper, Jr., M. D.

Albemarle Hotel Building, Charlottesville, Virginia

Reprints of this and preceding Bulletins may be obtained from this office

October, 1952

Case Reports

A series of studies of cancer illness among residents of ten representative localities is currently being conducted by the National Cancer Institute. The results of the studies in seven localities have already been published. The study reports can be obtained from Dr. R. F. Kaiser, Chief, Cancer Control Branch, National Cancer Institute, Bethesda 14, Maryland.

The following figures taken from the reports are of interest to all physicians. They show percentage changes in cancer incidence and mortality. Where crude rates are given, the study was completed before the 1950 census figures were available to permit correction for population aging. Since the incidence of cancer rises rapidly in late middle and old age, this is an important consideration.

Locality	Years Compared	Crude Incd. Rate	Crude Mort. Rate
		Change	Change
Atlanta, Ga.	1937, 1947	Males +20%	+57%
		Females + 4%	+21%
San Francisco & Alameda Counties		Males +43%	Virtually
Calif.	1938, 1947	Females +30%	no change
New Orleans, La.	1937, 1947	Males +18%	+32%
		Females + 6%	+ 7%
Denver, Colo.	1939, 1947	Males +35%	+19%
		Females +18%	-18%
		Age Stand. Incd. Rate Change	Age Stand. Mort. Rate Change
Pittsburg, Pa.	1937, 1947	Males +26%	+14%
		Females + 8%	+ 2%
Chicago, Ill.	1937, 1947	Males + 2%	+ 7%
		Females - 3%	- 4%
Dallas, Texas	1938, 1941	Males +20%	+ 8%
		Females +16%	- 3%

It is encouraging to note that the average increase in the incidence of cancer is greater than the average increase in mortality. Though significant advances have been made in recent years in palliation of many malignancies, physicians have no more methods of treating cancer in an attempt at cure than they had several decades ago. Surgical excision and destruction by radiant energy are still the only means available.

Therefore improved surgical and radiation techniques must be a factor in the holding down of the mortality rate, a thought which offers considerable satisfaction in an otherwise rather discouraging field.

Another factor must be the rising percentage of early diagnoses. This is emphasized by the smaller female mortality rate increases as compared with the male mortality rate increases. Improved diagnostic techniques have been particularly useful in the early detection of female genital cancer. Also the high incidence of genital cancer in young and middle-aged women has resulted in great interest on the part of women's groups in the cancer problem. To the widespread dissemination of cancer information, particularly among educated women, must be attributed many of the more numerous early diagnoses, and therefore part of the mortality decline.

On the whole, the studies of the National Cancer Institute are producing results which are a source of encouragement to physicians and to lay groups allied with the medical profession in the battle against cancer.

Medical Society of Virginia Cancer Committee

Chairman, George Cooper, Jr., M. D.

Albemarle Hotel Building, Charlottesville, Virginia

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December, 1952

Cancer of the Breast

In the June, 1952, issue of *Surgery, Gynecology, and Obstetrics*, Shimkin and his associates published an analysis of the data on 1056 female patients with primary breast carcinoma seen at the University of California Hospital during the period 1918 through 1947.

It certainly simplifies medical thinking to find that the 5-year survival rates in this report do not vary significantly from those given in similar reports of large series of female breast carcinoma seen at the Memorial Hospital, New York, the Presbyterian Hospital, New York, the Mayo Clinic, Rochester, and the Royal Infirmary, Edinburgh.

The University of California hospital data shows the following 5-year survivals:

Stage I ("cancer localized to the breast, without involvement of the skin or lymph nodes, or attachment to deeper structures") 72.5%.

Stage II ("similar to Stage I, but with some axillary lymph node involvement") . . . 42.2%.

Stage III ("cases with skin involvement, satellite tumors, fixed tumors, and extensive axillary lymph node involvement") . . 18.4%.

Stage IV ("cases with evidence of distant metastases") 0%.

The overall 5-year survival rate was 40.4%.

Study of the data to determine the effect upon survival of various factors produced several interesting conclusions.

1. Contrary to the widespread impression that the younger the individual, the poorer the prognosis, when the patients were divided into age groups by decades, there was no significant difference in the survival rates in any of the four stages.

2. There was no significant difference between the survival rates of patients whose cancers arose in the inner quadrants of the breast and of those whose cancers arose in the outer quadrants.

3. Delay in treatment did not worsen the prognosis within a single Stage. That is, Shimkin's figures indicate that a Stage I carcinoma of the breast carries the same prognosis whether radical mastectomy is performed at the onset of symptoms or after a delay of many months. The same is true of each stage (no comment on treatment will be attempted here). However, if a cancer progresses from one stage to the next more advanced stage during the period of delay, then the prognosis is severely and adversely affected.

Survival of women with breast carcinoma, Shimkin concludes, depends on the anatomical extent of the disease at the time of treatment, which in turn depends upon the growth potentiality or biological characteristics of the individual carcinoma, upon the resistance factors of the host, and upon the time intervening between the onset of malignancy and treatment. The last mentioned factor is at present the only one subject to control.

If all the University of California Hospital patients had had a delay of only one month from apparent onset to treatment, Shimkin's data indicate that the percentage of Stage I's would have risen from 32% to 52%. So 48% would still have had metastases, but the overall 5-year survival rate would have risen from 40% to 60%.

All this obviously leads us to the conclusion that any dramatic improvement in the survival rates from cancer of the female breast, the cancer incidentally which in the United States has the highest prevalence rate of any form of neoplastic disease

in either sex, depends upon adequate treatment in earlier stages. The ideal is radical mastectomy by a competent surgeon in Stage I. Cold statistics indicate that this ideal can be approached only by monthly palpation of women's breasts. Physicians will never be able to undertake such a program. In the California cases, 97% of the tumors were discovered by the patients, only 3% by physicians. However, physicians can teach their patients to examine their own breasts, and can advise them to make a monthly breast self-examination a part of their personal

hygiene habits. The properly instructed woman will not be frightened, nor will she make a nuisance of herself with false alarms. This would seem to be the only practical way now available to maximum salvage from cancer of the breast.

A teaching aid ideal for demonstration to laymen, as well as rich in useful pointers for physicians, the color and sound movie "Breast Self-Examination", can be borrowed from the Virginia Division of the American Cancer Society, Albemarle Hotel, Charlottesville.



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GUEST EDITORIAL

Looking Ahead in Public Health

THE Public Health movement launched in 1848 passed its one-hundredth birthday in 1948. At the end of a century, it is worthwhile to review what has happened as a result of advances in medical science and in sanitary and hygienic services. Even though the century has experienced two world wars of unparalleled destructiveness, the century has also witnessed unparalleled achievements in medical science and in the practical application of the principles of preventive medicine and public health. In listing a few of these achievements, we find a decrease in infant and maternal mortality, and the practical elimination of mortality from certain of the communicable diseases. As a result, life expectation has been increased by some twenty-five years for males and twenty-seven years for females in the past 100 years.

Holding the gains already made, both practicing and public health physicians find themselves turning attention to other problems. Among these unsolved problems in the field of prevention and cure are those of cancer, the increase of mental derangements, poliomyelitis, the cardio-vascular lesions, accidents in the home, on the job or from motor cars and the underlying conditions leading to the rising incidence of suicides, homicides and alcoholism.

One hundred years ago many of these problems would have been thought of as outside the purview of public health but today the concept has been enlarged to embrace whatever concerns the physical and mental fitness of the population.

Public Health, as a branch of the profession of medicine, has shown marked advances in the past quarter of a century. Increasing emphasis is being placed on the personal fitness and professional capacity of physicians entering Public Health as a profession. Recently the American Board of Preventive Medicine and Public Health has been organized to encourage the study, improve the practice and advance the cause of preventive medicine and public health. In the issue of the *Journal of the American Medical Association* for September 29, 1951, the Council on Medical Education and Hospitals of the American Medical Association published the list of approved residency training programs in Preventive Medicine and Public Health in thirty-nine local areas in thirteen states. One of the approved programs was the Arlington County Health Department in Virginia.

In the thinking, planning and performance in this enlarged field of Public Health, I and my colleagues in the Virginia Health Department—State and local—feel privileged to work with the practicing physicians of the State. The assurances that have come to me of the fine spirit of comradeship and cooperation which has existed over the years between the State Health Department, The Medical Society of Virginia and the practicing physicians of the State, make all the keener my anticipation of a satisfying experience of service in public health in Virginia.

MACK I. SHANHOLTZ, M.D.,
State Health Commissioner of Virginia

YOU AND YOUR A.M.A.

WALTER B. MARTIN, M.D., *Moderator*

At the meeting of The Medical Society of Virginia at the Cavalier Hotel, Virginia Beach, Monday, October 8, 1951, the speakers in this discussion were

presented by Dr. Martin of Norfolk, member of the Board of Trustees, American Medical Association.

WHY YOU AND YOUR A.M.A.

H. B. MULHOLLAND, M.D.,
Member, Council on Medical Service, A.M.A.
Charlottesville, Virginia.

The Council on Medical Service and the Board of Trustees of the American Medical Association decided to inaugurate a series of "trial runs" in several states in an endeavor to acquaint the state societies with some of the functions of the Headquarters group and its various Councils and Committees. Virginia was picked as one of the states for this co-operative effort to educate the doctor about his National organization.

My particular phase of this overall picture is to briefly outline to you the work of the Council on Medical Service, whose function is "To make available facts, data and medical opinions with respect to timely and adequate rendition of medical care to the American people". Several years ago this Council established eight committees to work with its members. Each one of these committees consists of five to eight members selected because of their interest or work in some phase of medical service or medical care and with due regard to representation of various geographical areas. On each one of these committees, there is a member from the Council on Medical Service. These groups are constantly engaged in studying and formulating principles and plans for all types of medical service.

A short resume of the function of each Committee follows:

COMMITTEE ON PREPAYMENT HOSPITAL AND MEDICAL SERVICE

This committee has under consideration all matters pertaining to the evaluation of voluntary prepayment medical care plans; and to the evaluation of voluntary health insurance written by private insurance carriers.

The "Seal of Acceptance" has become known to all interested in prepayment insurance, and this committee carefully screens all applications before such approval is given to any plan.

Besides the above functions, there is always under consideration the important possibilities of increasing the scope of the benefits under all types of voluntary health insurance. Several meetings have been held both nationally and regionally, with all interested groups holding a full discussion of all of the above problems.

The Voluntary Prepayment Medical Care booklet which is annually revised and published is an effort of this committee.

COMMITTEE ON EXTENSION OF HOSPITALS AND OTHER FACILITIES

Perhaps the best known activity to come out of this committee to date is "The Report of the Committee on Hospitals and the Practice of Medicine", the so-called "Hess" report, which is concerned with the physician-hospital relationship.

The question of the impact of facilities constructed under the Hill-Burton Act also receives constant consideration of this group, and the auxiliary facilities, such as health centers, medical service centers, out patient dispensaries being developed throughout the country are constantly under its surveillance.

One of its recent activities is to implement the recent action of the Board of Trustees in expanding and developing the Physicians Placement Service, for which purpose a meeting of all of the states with sound functioning programs was held in Chicago in October.

COMMITTEE ON INDIGENT CARE

Indigent care is an all important problem involving the delivery of medical service. This committee is now engaged in making a survey of the various indigent care plans throughout the country, their relationship to state and local medical societies, with a view to establishing basic principles for the operation of these programs, the development of minimal standards for these plans, and preparation of guides for the operation of different types of plans tailored to fit local patterns. Liaison between the American Public Health Association and the American Public Welfare Association has already been established in this connection.

COMMITTEE ON MATERNAL AND CHILD CARE

It is the purpose of this committee to concern itself with the A.M.A. activities in the above field together with compilation of data on the problems in this area and the development of programs adaptable for local areas in coordination with state and local societies.

However, of immediate concern is a discussion of a possible revival of the E.M.I.C. program. The committee sampled groups of physicians which resulted in obtaining data about the working of this plan in World War II, its good and bad points. Several meetings with pediatric, obstetrical societies, American Legion, and the Children's Bureau were held and a broad discussion of the subject ensued.

It is now the opinion of this committee that a revival of this program at this time is not necessary.

COMMITTEE ON MEDICAL CARE FOR INDUSTRIAL WORKERS

To answer many of the questions foremost in the minds of those interested in these problems, the

committee is now concerned with a review of the scope of medical care programs now available to industrial workers, how broad the term "industrial worker" should be, the status of physicians engaged in these medical care programs, and medical school teaching in these problems.

Cash sickness benefits with its enabling legislation is being studied. A comprehensive report on this subject was rendered to the House of Delegates of the A.M.A. in June, 1951.

COMMITTEE ON FEDERAL MEDICAL SERVICES

This recently activated committee will study the many subjects relating to medical and hospital care of veterans, Federal programs for medical care, home town medical care, and establish the necessary liaison with all groups concerned.

COMMITTEE ON RELATIONS WITH LAY SPONSORED VOLUNTARY HEALTH PLANS

Since its inception, the committee has been busy with annotating the "Twenty Principles" for lay sponsored voluntary health plans, which provides sound practice for the operation of so-called "Co-ops". It will pass on and evaluate any plans developed under these auspices and screen all applications for approval. An attempt has been made to form a liaison with these groups.

From the above, it can be gathered that this Council has under active consideration the broader aspects of medical care and service, including studies and plans for the improvement and expansion of such service by physicians to the people of the United States of America. Indeed, this involves care from the "cradle to the grave".

THE A.M.A. BEGINS AT HOME

JOHN T. T. HUNDLEY, M.D.

President-Elect, The Medical Society of Virginia.
Lynchburg, Virginia.

The individual doctor constitutes the A.M.A., and it is he who benefits from the activities of the A.M.A.

The *Fasces* was an old Roman emblem. It indicated strength through unity. Recent events in world history attributed unhappy connotations to the Fascist

emblem, but the emblem itself, a binding together of a number of weak reeds, to create great strength through unity, is as meaningful as ever. It is by such a binding together of weak individuals that the strength of the A.M.A. is derived.

The Judicial Council is a sort of Supreme Court of the medical profession on matters of membership and professional ethics.

The scientific publications of the Association, the *Journal of the A.M.A.* and nine special journals, are familiar to you all and they are outstanding in the field of medical journalism.

The Department of Public Relations is being re-organized and expanded. It has organized an Advisory Committee and will cooperate closely with State Associations. It publicizes all the activities of the various departments of the Association. Its aim is to build good will for the medical profession in order to advance the health and welfare of the people.

There are various other departments concerned with administration, membership and finance, including the Biographical Department which keeps record of all physicians and medical students.

To house all these departments and personnel necessary to carry on their activities the Association has a nine story building occupying two-thirds of a city block and over 800 employees are on the pay roll. The whole environment of the practice of medicine today is a result of the activities of the A.M.A. The fact that you can practice good medicine unhampered, and protected by the activities of all of these Councils and Bureaus you owe to the A.M.A.

The Association's activities have expanded so much that no longer can its publications support its financial demands.

The members are now asked to pay \$25 a year for their membership. This includes subscription to the *Journal* which in itself costs \$15. Hence, you are really asked to pay \$10 a year for the privilege of membership. Is that a great sacrifice? Considering what is being done for you, is it not more than reasonable? Do you not owe it to both yourself and to the protection of high medical standards to maintain your membership?

Remember YOU are the A.M.A. If there is anything about it you do not like, get in and be active and work for the changes you think should be made. Do not stand to one side and merely criticize.

QUESTIONS ANSWERED BY DR. BAUER

Q. What is the American Medical Education Foundation and what is the reason for its existence?

A. The American Medical Education Foundation is a non-profit organization founded to receive and distribute

contributions to medical schools. This Foundation endeavors to obtain funds from physicians and medical societies. It works in close cooperation with the American Medical Education Fund, which endeavors to obtain funds for the same purpose from business organizations and lay individuals.

Our medical schools are in dire financial straits. It has been proposed that the Federal Government contribute the necessary funds. The A.M.A. is opposed to this except that it recommends a one-time Federal grant for construction and modernization of medical schools. The Association feels that while the Federal Government now makes grants-in-aid to medical schools, these grants are for specific purposes and form only a small part of the income of medical schools. Should Federal aid reach the point where the majority of the funds for medical education came from the Federal Government, there is grave danger of government control of medical education. Furthermore, the acceptance of Federal aid would result in the drying up of private funds now being contributed. The schools in a few years would be entirely dependent on Federal money in order to continue operation. A withdrawal, then, of such Federal aid would leave the schools in a worse predicament than they are now. In case of a depression or an all-out war, Federal funds might well be curtailed. Likewise, the Association feels that sources of private funds are not yet exhausted.

No doctor ever paid for his medical education. The student or his family paid only the tuition but the actual cost to the school is several times the amount of the tuition. These additional funds have come from endowment. The doctor now has a chance to pay his debt. This he can do by contributing to the Foundation, either in an unrestricted gift or by earmarking it for a specific school. If half of the doctors in the country would contribute \$100.00 a year, this amount plus what will be obtained by the Fund would solve the financial problems of our medical schools and protect their high standards.

Q. Why does not the A.M.A. collect its dues direct, instead of having the County Societies collect them?

A. The A.M.A. has no idea from whom to collect dues. Interns and residents (up to five years after graduation), those in military service, those wholly retired from practice, those over 70 years of age, those who are ill, and those for whom it would be a financial hardship to pay dues are exempt. The County Society is the only agency which can determine some of these factors. There have been many difficulties in working out a smooth running scheme for collecting dues, but they are gradually ironing out. County Societies are urged to forward dues collected promptly, and State Societies also, and not to wait until they have an appreciable sum of money to forward. If they will do this, it will speed up the issuing of membership cards.

Q. Why does the A.M.A. have two classes of membership—Members and Fellows? What is the difference?

A. To answer this we must go back before 1950. Up until that time whenever a doctor joined his county society, he automatically became a member of his State Society and of the A.M.A. He paid an assessment to his State Society but nothing to the A.M.A. Fellows of the A.M.A. were those members who were elected by the Judicial Council and they paid Fellowship dues which covered only the cost of the A.M.A. scientific publication they elected to receive. Fellows only are eligible for membership in the House of Delegates, as officers, and to take part in the scientific programs of the Association.

Any member could apply for Fellowship and his election was more or less automatic, unless he had something unfavorable in his record in the matter of ethics or in-

volvement with the law, or was a graduate of an unaccepted medical school. In the latter case he had to wait a stated term of years before being eligible.

When dues were made mandatory and subscription to the Journal included in the dues, the Fellowship dues were reduced to five dollars. The Fellow still is the only one eligible to take part in scientific programs or to hold office or be a member of the House of Delegates. He also has the choice of receiving either the *Journal* or one of the special journals as part of his membership. There has been considerable discussion recently as to the advisability of having only one class of membership. It will be further considered at the next meeting of the House of Delegates.

Drug Aids in Dislodging Objects Swallowed or Inhaled by Children.

A new use for an old drug—aminophylline—to aid in dislodging foreign bodies swallowed or inhaled by children was reported in the *Journal of the American Medical Association*, of November 24.

The drug, long prescribed to treat asthma, has been used successfully to relax the bronchial muscles and thus permit spontaneous remission of foreign objects inhaled or swallowed by youngsters, according to Dr. I. Newton Kugelmass, of New York.

Four such cases involving children were described by the doctor, who treated them by rectal retention of the drug. Prompt remission resulted.

"Children inspire or swallow foreign bodies because they explore things with their mouths," Dr. Kugelmass said. "Inspiration of such objects into the air passages is usually the result of a sudden gasp for breath after excitement, crying, or laughing, but swallowing may force an object over the laryngeal aperture [voice organ]."

New Drug Successfully Used to Combat Skin Disorders.

Banthine (trade name) bromide, a new drug, has been successfully used in the treatment of excessive perspiration and certain skin conditions aggravated or produced by it, an article in the *Archives of Dermatology and Syphilology*, published by the American Medical Association, reported.

"It is our impression that banthine is of definite value in the treatment of certain diseases of the sweat glands," according to Drs. Crawford S. Brown of Boston and I. Lewis Sandler of Washington. Dr. Sandler is assistant professor of dermatology at the Georgetown University School of Medicine.

Twenty-seven persons suffering from excessive perspiration or common skin disorders associated with it were given oral doses of the drug. Observational studies of the results were made for an average of eight weeks.

According to the report, 74 per cent of the patients showed marked improvement, 19 per cent showed moderate improvement, and seven per cent showed slight improvement.

ANTIHISTAMINICS*

HARVEY B. HAAG, M.D.,

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Richmond, Virginia.

The drugs which have been introduced under the term "Antihistaminics", "Antihistamines", or "histamine-antagonizing agents" are synthetic substances of differing chemical compositions which, while they may have somewhat diverse pharmacological actions otherwise, have the common property of blocking the action of histamine, not, however, destroying it. The rationale of their clinical use is largely based on the premise that in allergic reactions histamine or a histamine-like substance is released and accounts for the various phenomena of the disease condition.

As of the present, there are at least a score of antihistaminic drugs available for general clinical use. This situation has been pictured as reminiscent of a "gold rush" by drug manufacturers "to stake out claims". So as to have some control over this tendency to multiplicity of preparations, it has been suggested that the Council on Pharmacy and Chemistry of the American Medical Association decline to accept further antihistaminic drugs unless they offer at least one of the following advantages over the agents already accepted: (1) that the drug have a greatly increased potency over those now available so that it would be possible to give relief to certain allergic manifestations not relievable now; (2) that the drug be much less toxic than any now available, and not 10 or 20 per cent less toxic; (3) that the drug be more active for a much greater duration, not just three or four hours, but twenty-four hours; (4) that the drug have other than histaminic actions, such as sympathomimetic action; or some other action that in some way interferes with the allergic mechanism.

By and large, it appears at present that all of the commonly used antihistaminics are probably of about equal therapeutic effectiveness in the dosages customarily used. In view of this, it would appear advisable for the physician to become thoroughly familiar with the use of a limited number of these preparations rather than, because of spreading his experience too widely and therefore too thinly, have

only a smattering of information concerning a large number.

These compounds inhibit the stimulating action of histamine on certain secretions, such as those of the lacrimal, salivary and bronchial glands. On the other hand, they do not prevent histamine from increasing gastric secretions. They inhibit the dilating effect of histamine on the arterio-venous network and its tendency to increase capillary permeability. Furthermore, experimentally they counteract the constricting effect of histamine on certain smooth muscles, such as those of the bronchial tree. They also prevent the whealing produced by the local application of histamine.

In animals some of the compounds of this group have been found to intensify the pressor action of epinephrine; others have been found to dampen this action. At this point it might be indicated that "epinephrine fastness", as encountered clinically in the use of epinephrine in bronchial asthma, has been related to an action of epinephrine on the adrenal glands resulting in the liberation of histamine, an antagonist to the bronchial dilating action of epinephrine. Because of its inhibiting effect on the action of histamine, antihistaminic therapy has been advocated for the purpose of counteracting this "fastness".

To further illustrate pharmacological differences which might exist between individual antihistaminics: some possess atropine-like effects, some the properties of nitrites (insofar as action on smooth muscle is concerned), some have a quinidine effect, and some inhibit the activity of hyaluronidase.

Practically all of these drugs are locally anesthetic and systemically tend to have a sedative and slightly analgesic effect on the central nervous system. In this latter connection, it has been found that certain antihistaminics tend to potentiate the depressing action of barbiturates, in view of which finding combinations of these drugs with members of the barbiturate group should be used cautiously. In the case of antihistaminics so studied, no synergism was noted on the intensity of effect of alcohol on the cen-

*Prepared for presentation at the annual meeting of the Medical Society of Virginia, Roanoke, October 9-11, 1950.

tral nervous system.

With most of these drugs, maximum effectiveness is noted in about one hour following oral administration with activity disappearing more or less totally in from 4 to 6 hours. This rapid rate of detoxication and elimination accounts for the finding that they have little or no cumulative effect. The liver seems to be the main organ for detoxifying antihistaminic drugs and hence hepatic disease might influence the extent of their activity.

In rare cases therapy with this group of drugs by intravenous administration might be desirable; for instance, diphenhydramine (Benadryl) can be given by vein in doses varying from 10 to 50 mg. dissolved in about 20 cc. of saline and administered slowly. Some can also be given subcutaneously and intramuscularly.

Many of the antihistaminics are available for local application in ointment form, usually of 2% concentration.

The single oral dose for individual members of this group of drugs for adults varies from 4 mg. to 100 mg. With the exception of the very potent preparations, the usual dose for children is from 4 to 6 mg. per Kg. body weight per day. Most of these preparations as such have a somewhat unpleasant taste, making administration in plain solution, particularly to children, at times difficult. This can be largely circumvented by the use of proper disguising vehicles.

As is to be expected on the basis of chemical differences existing between the various antihistaminics, the intensity of their antihistaminic action has also been found to vary. The comparative antihistaminic activity of a series of these agents can be studied in the laboratory by determining the concentration of the various drugs necessary to antagonize the action of a given concentration of histamine on isolated ileum strips and bronchial rings of guinea pigs. They may also be compared in terms of their relative ability to prevent histaminic poisoning in intact guinea pigs, to which histamine has been administered either by injection or by aerosol inhalation. Sometimes the comparative values determined in the laboratory by these several technics are found to carry over to man, and sometimes not.

In the final analysis, the relative activity and efficiency of any series of drugs intended for human therapeutics must ultimately be determined on man.

As is, unfortunately, the case with many other drugs, in the clinical testing and comparing of antihistaminic agents, many of the reported observations represent studies in which adequate control procedures were not employed. To realize the great importance of including control observations in studies aimed at comparing the therapeutic efficiency of various members of the antihistaminic group of drugs, one needs only to note that placebos alone were found to alleviate certain symptoms of allergy in 33% of the cases in one series of patients.

Insofar as they measure the relative antagonistic action of various antihistaminic drugs against one type of histaminic effect, several technics in which histamine is applied locally in humans offer the definite advantage over most other kinds of clinical studies in that psychologic factors are practically eliminated. In one type of such studies histaminic solutions with and without an antihistaminic are applied to the scarified skin and the extent of whealing noted. In another type of observations histamine is administered by iontophoresis into the skin and the effect of an orally administered antihistaminic noted on the extent of whealing. However, even in employing such objective technics as these it is difficult to obtain a clear picture of comparative efficiency. For instance, in one study in which histamine was applied to scarified areas with and without an antihistaminic, it was found that drug 1 was only about 1/3 as effective as drug 2. On the other hand, in a study in which histamine was administered by iontophoresis and the antihistaminic given by mouth, drug 1 and drug 2 had the same activity. Because, as previously stated, antihistaminics exert other actions than purely histamine-antagonizing ones, it could well be that one preparation might achieve a low rating by such tests as these and yet be superior in regard to other actions.

In the clinical use of these drugs it should be borne in mind that they are not curative of the underlying physiological disturbances leading to the production of histamine-like phenomena. Furthermore, it is to be noted that it is in the therapeutics of conditions of the skin and mucous membrane characterized by vascular phenomena that they have proven most successful, particularly if these phenomena are mild. In deeper seated allergic states such as the bronchospasm of asthma and the arthralgia of serum sickness, they are of only occasional

value. In no type of allergy has any conclusive evidence been obtained that these drugs have any significant effect on the eosinophile picture.

The antihistaminic preparations have their greatest therapeutic effectiveness on nasal allergies; on seasonal hay fever more than on perennial vasomotor rhinitis. In these conditions the congestion of the mucous membranes is reduced as is the rhinitis and pruritus of the nose, eyes, and throat. Likewise benefit is usually derived by the administration of these drugs in the treatment of urticaria, angioneurotic edema, serum sickness (except for the pyrexia and arthralgia), reactions from penicillin and other drugs, itching skin conditions such as atopic dermatitis, pruritus ani and vulvae, allergic food reactions, insect bites and nettle stings. In this connection it is interesting to note that the venom of certain common insects contains histamine, while that from nettles contains both histamine and acetylcholine.

In the treatment of itching skin conditions the drugs are sometimes applied locally in ointment form. Presumably here relief is associated both with their antihistaminic action, and with their local anesthetic effect. This local anesthetic effect alone would tend to promote healing by stopping the scratching induced by itching. It is worth remembering, not only in connection with their local use, but also with their systemic use, that these drugs themselves can produce a dermatitis and occasionally aggravate an already existing dermatitis.

These agents, particularly diphenhydramine (Benadryl) and its theophylline derivative (Dramamine) have been used in the treatment of motion sickness. A recent report indicates that a combination of diphenhydramine (Benadryl) with scopolamine is more effective than either agent alone.

Some reports have indicated the usefulness of these agents in reactions from anti-rabic vaccine, sun burn, sensitivity to cold, transfusion reactions, reactions from injections of liver and insulin, and in bringing relief in instances of bronchospasm due to curare. It may be noted that procaine possesses an antihistaminic effect and in the treatment of curare bronchospasm it has been recommended on the basis of this action.

In spite of the fact that it has been demonstrated rather conclusively that these drugs are generally of little or no value in the treatment of asthma, their

use for this purpose still seems to be rather widespread. They might prove beneficial in treating spasmodic bronchial coughing in children.

Thus far their usefulness, other than that due to their sedative and analgesic actions on the central nervous system, in the treatment of radiation sickness, migraine (except spontaneous histaminic cephalgia) Parkinsonism, vomiting of pregnancy, periarteritis nodosa, allergic purpura, scleroderma, and in the ordinary cold is questionable and remains to be demonstrated.

Attendant upon the release of antihistaminics for over-the-counter sale to the general public, criticism has been leveled at the Food and Drug Administration, and so it may be in order to briefly discuss the position of this agency in such matters. In this case, as in the release of all new drugs, the Food and Drug Administration allowed the new drug applications concerned to become effective only after adequate and expert medical and pharmacological evidence had been submitted to demonstrate that these drugs were safe for use under the conditions proposed. It cannot be denied that undue advertising claims have been made concerning the efficiency of the antihistaminics in the treatment of the common cold. However, the Food and Drug Administration has no legal control over advertising. It does have authority to deal with the labelling of drugs, and it is noteworthy that label claims have been kept moderate, whereas advertising claims have been much less judicious.

Without exception all of the antihistaminic drugs now in general use appear capable of producing undesirable side reactions; the nature, incidence and severity of these toxic actions varying from drug to drug. These side reactions do not appear to be due to an antihistaminic effect. It has been found that patients differ in their sensitivity to the toxic actions of the antihistaminics as a group and also in their response to an individual drug. In view of this an individual may tolerate a preparation which has generally a high index of toxicity better than one which has a lower index.

The commonest side reactions incident to antihistaminic therapy are those referable to effects on the central nervous system. Of these effects sedation is the most frequent, varying in intensity from mild sedation to deep sleep. Associated with the sedative effect there might be dizziness, inability to concen-

trate and disturbed coordination. While in such a state the subject may behave as one under the influence of alcohol. Because of this depressing effect on the central nervous system, initial therapy at least should not be instituted at a time when the patient might be exposed to automobile or occupational hazards. Preferably the initial dose should be given at bed time. In some patients tolerance seems to develop in a matter of several days to the sedative action of the antihistaminic. So as to prevent sedation it has been recommended that either caffeine or amphetamine be used in conjunction with these drugs. Observed less frequently than the sedation is dryness in the mouth, dilated pupils, headache, nervousness, lassitude and, in rare instances, coma or convulsive seizures. It is interesting to note that in experimental animals these compounds in toxic doses almost invariably produce convulsive seizures and in the reported cases of severe poisoning in children a similar reaction has usually been noted.

The antihistaminics are capable of producing typical drug reactions in the skin. In addition, there have been several instances of agranulocytosis and hemolytic anemia found in patients while on antihistaminic therapy. Side effects referable to the gastrointestinal tract also occur; these are minimized by administration of the drugs after meals.

Although serious side reactions are rare, particularly when one considers their widespread use, and the drugs appear to be rapidly detoxified and eliminated, it is advisable that patients under prolonged antihistaminic treatment receive periodic examinations as a preventive measure. There is no specific antidote, treatment being symptomatic.

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ANEMIA*

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Anemia is defined as a condition of the blood in which there is a deficiency of hemoglobin, in erythrocytes or in the volume of packed erythrocytes per 100 cc.

There have been such radical changes in our concept of the classification and treatment of anemia that it seemed timely to review the subject briefly.

It was not so long ago that a doctor was considered very stupid who required a microscopic examination of a patient's blood to make a diagnosis of anemia and very stubborn if he did not accept the diagnosis of the family or patient and prescribe iron empirically. Certainly the man who was not guided by the microscope had fewer worries albeit fewer cures than his more learned successor.

*Read at the annual meeting of The Medical Society of Virginia in Roanoke, October 8-11, 1950.

Then came the day when anemias were simply classified as primary and secondary, those which were not caused by iron deficiency or obvious hemorrhage being primary.

Today the nomenclature in classification is legion, being based on etiology as well as objective findings.

There are now so many subdivisions that it may be more proper to speak of "The Anemias".

The Committee for Clarification of the Nomenclature of Cells and Diseases of the Blood and Blood-forming Organs, sponsored by the American Society of Clinical Pathologists and the American Medical Association,¹ lists the following varieties: Normocytic Anemia, Hypochromic Microcytic Anemia and Macrocytic Anemia.

These are subdivided as follows:

TERM TO BE USED	THE ANEMIAS	TERMS TO BE AVOIDED
NORMOCYTIC ANEMIA, due to		
Unknown cause		Refractory anemia, secondary anemia.
Hypoplastic normocytic anemia (pancytopenia), due to		
Unknown cause		Idiopathic aplastic anemia, panmyelophthisis, aregeneratory anemia, aleukia haemorrhagica, toxic paralytic anemia, cryptogenic anemia, refractory anemia, pancytopenia, Felty's syndrome.
		Fanconi's syndrome, constitutional infantile anemia.
Congenital		Simple chronic anemia, secondary anemia.
Poison (specify, as benzol)		
Infection		
Radiation, from		
Roentgen rays		
Radioactive substances		
Osteopetrosis		Marble bone disease, Albers-Schönberg disease.
Myelofibrosis		
Congestive splenomegaly, due to		
Unknown cause		Banti's disease, splenic anemia.
Thrombosis of splenic or portal vein		
Liver disease		
Normocytic anemia with erythrocytic hypoplasia due to		
Unknown cause		Pseudoaplastic anemia, refractory anemia, progressive hypocythemia, progressive erythrophthisis.
Congenital		
Endocrine hypofunction		
Hypothyroidism		
Poison		
Infection		

Normocytic anemia with myelophthisis, due to

Unknown cause

Osteopetrosis

Myelofibrosis

Amyloidosis

Metastatic neoplasm

Leukemia

Plasmocytic myeloma

Leuko-erythroblastosis, myelopathic anemia, metastatic anemia.

Osteopathia condensans disseminata, chronic non-leukemic myelosis, Albers-Schönberg disease, marble bone disease.

Normocytic anemia from internal destruction

of erythrocytes, due to

Unknown cause

Poison

Lead

Infection

Parasite

Malaria

Hemolytic anemia.

Sensitization to Rh-Hr or other erythrocytic

agglutinogens

Hemolytic disease of the (fetus and) newborn

Erythroblastosis fetalis, erythroleukoblastosis, icterus gravis neonatorum, hydrops fetalis.

Transfusion hemolysis

Internal hemorrhage

Hemoglobinuria

Unknown cause

Paroxysmal hemoglobinuria

Hemoglobinemia.

Unknown cause

Nocturnal

Marchiafava-Micheli syndrome.

Cold

"e frigore".

Exertional

March hemoglobinuria.

Allergic

Favism

Hemolytic normocytic anemia, acquired due to

Unknown cause

Acute

Lederer's anemia, Winckel's disease, acute febrile pleiochromic anemia.

Cold agglutinins

Sulfonamide sensitivity

Leukemia, lymphocytic

Ovarian cyst

Hemolytic normocytic anemia, hereditary, due to

Hereditary spherocytosis

Familial hemolytic icterus, acholuric jaundice, congenital hemolytic icterus, hemolytic icteroanemia.

Trait

Hereditary ovalocytosis

Trait

Sicklelema

Sicklanemia, drepanocytic anemia, Dresbach's syndrome, Herick's anemia.

Trait

Normocytic anemia, due to

Acute blood loss

Metabolic disturbance, from

Unknown cause

Lipid histiocytosis

Protein deficiency

Vitamin deficiency

Sprue

HYPOCHROMIC MICROCYTIC ANEMIA,

due to

Unknown cause

Chronic blood loss

Deficient intake, absorption or metabolism of iron

Prematurity

Hereditary leptocytosis

Trait

With erythrocytosis

MACROCYTIC ANEMIA, pernicious anemia type, due to

Unknown cause

Infantile

Pernicious anemia

Pregnancy

Sprue

Tropical

Nontropical

Nutritional deficiency

Celiac disease

Chronic intestinal obstruction

Diphyllobothriasis

Gastrectomy

Disturbance in continuity of the gastrointestinal tract

Tuberculous enteritis

MACROCYTIC ANEMIA, due to

Unknown cause

Hypoplasia

Liver disease

Secondary anemia, chlorosis.

Idiopathic anemia, simple achlorhydric anemia, Witt's anemia, Chronic microcytic anemia, idiopathic hypochromaemia, chronic chlorosis, erythronormoblastic anemia.

Secondary anemia, hypoferric anemia, achromic anemia, simple anemia, iron deficiency anemia.

Cooley's anemia, thalassemia, erythroblastic anemia, Mediterranean anemia, disease of fever, target cell anemia, familial microcytic anemia, hereditary or familial poikilocytosis.

Achrestic anemia, idiopathic refractory megaloblastic anemia.

Megaloblastic anemia of infancy.

Addisonian anemia, Biermer's disease, primary anemia, macrocytic anemia, megaloblastic anemia.

"Severe" anemia of pregnancy, primary anemia of pregnancy, hemolytic anemia of pregnancy, macrocytic anemia of pregnancy.

Indische Sprue, psilosis, aphthae tropicae, tisis intestinal, Cochin-China diarrhoea.

Idiopathic steatorrhea, Gee-Herter disease.

Goat's milk anemia, tropical macrocytic anemia.

Achrestic anemia.

Certain specific terms are to be avoided, particularly secondary anemia, since all anemias are secondary to some cause whether or not that cause is found.

Iron deficiency is recorded as one of the most frequently encountered clinically manifest deficiency diseases.² When encountered in adults the disease is rarely, if ever, of dietary origin and must be regarded as evidence of abnormal blood loss.³

Iron deficiency anemia occurs under the following conditions:

1. Infants who failed to receive adequate supply of iron from their mother at birth and who have not had suitable supplements.

2. Women who have yielded excessive amounts of iron to their children, particularly women with multiple pregnancies.

3. Persons who have lost blood. Incidentally, it may be mentioned that blood donations should not be made oftener than four or five times a year.

In going over the records of one thousand consecutive office and hospital patients irrespective of symptoms, diagnoses or age, I have found that 13.9% had a hemoglobin content of 12 gm. or less per 100 cc. of blood.

Anemia due to toxic or physical causes (so-called "secondary anemia") may be caused by the following: Chronic infections; parasitic diseases, as malaria, hookworm; prolonged lactation; chronic poisons, as lead, mercury, arsenic, benzol, anilin, nitrobenzol, trinitrotoluol, pyrodin, phenylhydrazine, sedormid, xylene, naphthalene, gold compounds, potassium chlorate, amidopyrene, acetanilid, sulfo-

namides, etc.⁴ In these cases the type of anemia may vary without known cause, ranging from many immature red cells to an aplastic form of anemia with decreased number of red cells without young forms.

MACROCYTIC HYPOCHROMIC ANEMIA. Probably the most common cause of this is pernicious anemia but it may occur in pregnancy, pellagra and such gastrointestinal conditions as complete gastrectomy, gastroenterostomy, intestinal short circuit, ulcerative colitis, chronic bacillary and amebic dysentery, idiopathic steatorrhea and certain tape worm infestations.

It is important to bear in mind the fact that the hemoglobin content and red cell count of blood

eral requirements of grazing animals has long been recognized. Acute symptoms of phosphorus, cobalt, iodine and copper deficiencies have thus been identified.⁵

The situation for animals and for man is by no means comparable and it is generally believed that the minerals in soil do not affect the iron content of vegetables sufficiently to cause anemia.

TREATMENT. The treatment of anemia consists of

- 1. Removal of cause.
- 2. Replacement of blood by transfusion, if severe.
- 3. Specific therapeutic measures. Iron is only useful in iron deficiency anemia. Iron therapy if efficacious should be followed by a rise of hemoglobin at a rate of 0.1 to 0.2 gm. per 100 c.m.l. of blood daily.

Liver extract, folic acid and B 12 are essentials in treating pernicious anemia and the allied macrocytic anemias. Transfusions are particularly useful in cases of severe anemia or sudden blood loss.

SUMMARY. Anemia is a symptom of a wide variety of disease conditions and the treatment hinges on the type one is dealing with.

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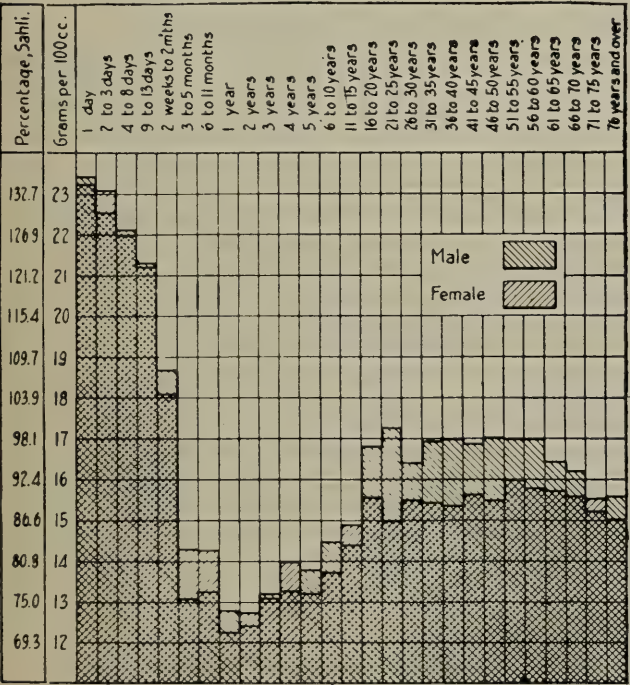
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DISCUSSION

DR. JOHN EDGAR STEVENS, Richmond: I enjoyed Dr. Graves' paper. I would like to emphasize one point that is very common in types of anemia we encounter in private practice which I think Dr. Graves will agree is the most common type, that of iron deficiency. This is the type that commonly occurs in females up to the age of menopause. In patients of this type we try to emphasize the amount of blood lost and therefore the amount of iron lost in the menstrual periods. Previously we have thought the loss of blood during these periods amounted to approximately three ounces; however, more recent work has shown that the amount of blood lost during normal menstrual periods may amount to 250 cc. or as much as 500 cc. each period. This is most important, for we recall if a normal male gave a transfusion of 500 cc. of



--Clin. Diag. by Lab. Methods
Todd & Sanford - 11th Ed.

vary with age and sex. For instance, hemoglobin content in the blood of the one day old infant averages 20 gm. per 100 cc. It falls rapidly, so that by the end of the second month it averages approximately 10.5 gm. per 100 cc. and reaches a low of 9.5 gm. at the age of ten months; after the first year it rises gradually, running higher in the male than in the female, until 60 years of age, when the difference decreases and the hemoglobin content is approximately the same for male and female during the remainder of life. (Fig. 1)

The importance of the soil in relation to the min-

whole blood it has been estimated that it takes approximately six to seven weeks for him to regenerate blood back to the normal level that he had prior to the giving of this transfusion.

This analogy is used in trying to explain the hypochromic anemias to these women particularly. They are told that if it takes a man that long to regenerate blood, they can imagine how much iron they have lost month after month.

Unless they eat an adequate diet, or, in most cases, take iron to replenish that which is lost during menstrual periods, usually they will develop an iron deficient anemia. I also try to classify these women as the "secretary type", who are "coke and nab eaters" at lunch time. Certainly their diet is usually an inadequate

one. Then added to it, they are not getting enough iron by taking supplementary amounts. Usually they come into the office with certainly a moderate to sometimes severe degree of hypochromic anemia.

I think Dr. Graves' remarks regarding specific treatment are most important because these females will respond and respond very rapidly if intake is sufficient. The main failing is that we give too little iron instead of too much and if we do not get the results we desire we give up on iron and then immediately resort to the so-called shotgun prescription. I think that practice is to be deplored and if it is iron deficiency anemia we should treat it with iron, insisting that the amount they take is sufficient to correct the deficiency. Usually this amount is from 9 to 13 grains per day of the ferrous form.

Severe Bronchial Asthma Reported Eased by Cortisone.

Cortisone administered orally in 12 cases of severe bronchial asthma brought a good therapeutic response in nine patients during the first 24 hours of treatment, two Detroit allergist reported. The results of the administration of the drug in tablet form were related in the August 11 *J.A.M.A.* by Drs. Sidney Friedlaender and Alex S. Friedlaender of the Wayne University College of Medicine. They said that a daily dosage at four to eight hour intervals produced an effect comparable to that obtained with an equivalent amount of the saline suspension of cortisone administered intramuscularly.

"The onset of improvement occurred more rapidly with the oral preparation, sometimes within two to six hours of the initial dose."

As is the experience with the use of cortisone in most cases, a relapse in symptoms occurred in all instances within a few days after cessation of the hormone, the report showed.

"While cortisone administered orally is more convenient and acceptable to the patient, the very ease

of administration renders this form of therapy subject to greater abuse," they warned. "Constant supervision and careful observation of the patient is necessary so that one may promptly detect and correct metabolic and hormonal side effects. Another serious factor to be considered in cortisone and adrenocorticotrophic hormone (ACTH) therapy is the tendency to precipitate psychic disturbances. Lowered resistance to infection has been shown by recent experiments to occur during cortisone or ACTH therapy.

"In the light of our present limited knowledge regarding the effects of these hormones on immune responses, their use in bronchial asthma should be restricted to those periods of extreme stress when other proved symptomatic measures are ineffective.

"The availability of these hormonal agents does not supplant the necessity for careful examination and immunologic study of each patient with asthma, with the view of determination and control of specific allergic sensitizations, as well as any nonspecific factor that may be contributing to the persistence of symptoms."

TREATMENT OF INTESTINAL OBSTRUCTION WITH THE AIR-VENT TUBE*

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Since distention is a frequent cause of death in all forms of intestinal obstruction, the efficiency of the tubes available for decompression of the obstructed intestine has long been a matter of concern to us. When suction was applied to one of the usual tubes and the intestine visualized in the autopsy room, the marked demonstration of the mucosa being drawn into the lumen of the tube was amazing. We had been aware that this occurred but had not appreciated just how marked it was before viewing these experiments. It was apparent that this phenomenon, which we have termed the "vacuum mucosa obstruction phenomenon," must be prevented in order to

which we use. The principal feature of the tube is the small plastic inner-tube which is inserted in the outer perforated tube. Instead of pulling the mucosa into the holes of the perforated tube, the suction as it builds up pulls atmospheric air into the intestine through this small air-vent tube—the line of least resistance. Thus the perforations remain clear and free so that a constant suction drainage of fluid and gas becomes possible. We have found no fluid between the pylorus and the ileum that cannot be removed through small holes. Therefore, over a distance of 23 centimeters, we have placed over 100 small holes rather than the customary 6

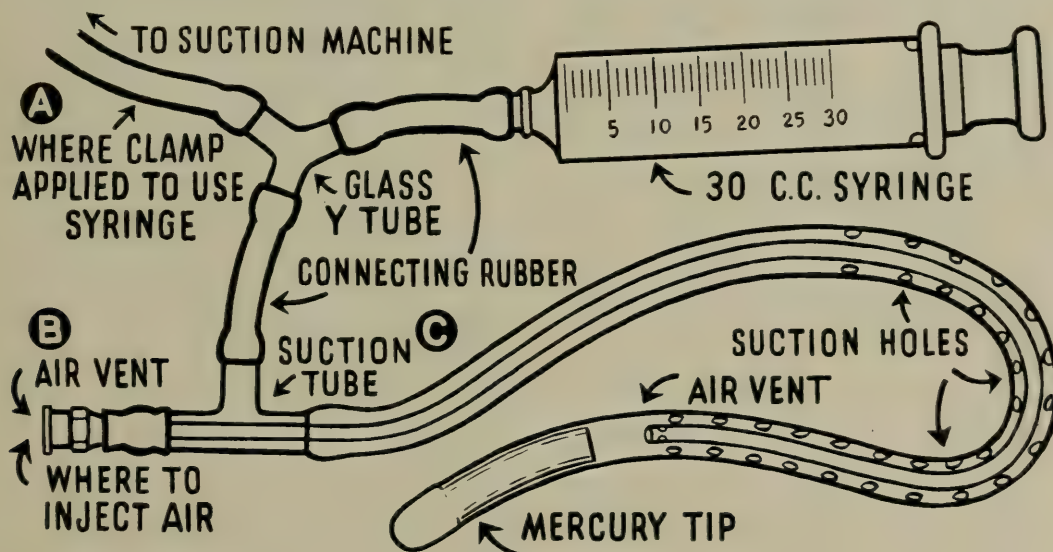


Figure 1.

secure adequate removal of the large amounts of fluid present in all cases of obstruction. It was to accomplish this that we designed our air-vent tube† which has been described in detail in an article soon to appear elsewhere.

Figure 1 shows this tube drawn out of proportion in order to visualize all the features of the assembly

to 8 large holes. We have also found that passage of the tube through the pylorus and down the intestine is greatly facilitated by weighing the tip with mercury.

Nursing care is reduced to a minimum with the closed system of drainage assembly shown in Figure 1. The nurse can tell at a glance whether or not the apparatus is functioning. If neither gas nor fluid is being removed, she draws back the

*Read at the annual meeting of The Medical Society of Virginia at Virginia Beach, October 7-10, 1951.

†Manufactured by George P. Pilling & Son Company, Philadelphia.

plunger of the 30 cc. syringe; if this does not immediately return to position, she checks the connections to the suction machine. If this fails to re-establish drainage, she can place a clamp on the tube to the suction machine (at A), and inject air or even fluid at the air-vent (B).

In the clinical management of patients undergoing this continuous type of drainage, it is necessary to give careful consideration to the replacement of the huge volumes of fluids removed (sometimes as much as 6,000-10,000 cc. in 24 hours) and the large loss of electrolytes, including sodium, potassium, chloride and bicarbonate. It becomes most important that careful, accurate intake and output records be kept, and that sound knowledge of the fundamental details of water and electrolyte balance govern replacement therapy. As Dr. Evans¹ and his group at the Medical College of Virginia have so frequently emphasized, cation and anion changes following suction drainage can be interpreted quite well by the simpler laboratory tests, provided the proper insight into electrolyte metabolism is available.

This type of drainage may prove to be a valuable research approach to the problem of acute water and salt depletion.

It should be borne in mind that the air-vent tube is to be looked upon as an aid in the treatment of intestinal obstruction and neither it nor any other tube should take the place of good surgical judgment. In our opinion a tube has little place in the treatment of large bowel obstruction; in such cases a cecostomy or colostomy should be performed as soon as possible.

In this paper we wish to describe the treatment of 3 cases of obstruction of the small intestine to illustrate the advantage of the air-vent tube in securing rapid efficient decompression. The experience and results of others are eagerly awaited.

Case 1. The patient was a 32-year-old colored man, admitted September 1, 1951, with abdominal distention of 2 days duration. This man had been drinking heavily for about a month before onset of the present illness. One week before admission he experienced a sudden onset of severe epigastric pain which was soon followed by nausea and vomiting. The pain continued severe and localized in the epigastrium for 2 days and then gradually subsided, but the nausea persisted. About 2 days before admission he noted distention of the abdomen, which

became progressively more severe.

On admission the patient complained of only moderate abdominal pain and distention, but he was vomiting and appeared somewhat irrational. The abdomen was moderately distended and showed the contour of distended loops of bowel on the anterior wall. No masses were demonstrated, and there was no localized tenderness. Considerable free fluid could be demonstrated in the abdomen; no bowel sounds were heard. The cul de sac bulged into the rectum.

The diagnosis was generalized peritonitis with paralytic ileus following a perforated duodenal ulcer a week before admission. There was marked dehydration. An air-vent tube was inserted, and intravenous fluids, penicillin, and streptomycin were started. Upright films of the abdomen showed greatly distended loops of the bowel with free fluid in the lower abdomen. In the first 10 hours 3,000 cc. of intravenous fluids were given and 1,200 cc. of gastric contents were aspirated, with considerable improvement in the patient's general condition. On succeeding days the following amounts of fluids were given and aspirated: first day, 3,000 cc. given, 2,500 cc. aspirated; second day, 4,000 cc. given, 7,300 cc. aspirated; third day, 4,000 cc. given, 10,000 cc. aspirated; fourth day, 4,000 cc. given, 9,200 cc. aspirated; fifth day, 3,500 cc. given, 8,300 cc. aspirated; sixth day, 4,000 cc. given, 7,500 aspirated. By the third day the tube was demonstrated to have passed through the duodenum beyond the ligament of Treitz. The patient was much improved, and was permitted to take fluids freely by mouth. On the sixth day faint bowel sounds were heard, and the patient passed a small liquid stool. On the seventh day the patient was quite comfortable, had good bowel sounds and two bowel movements. The tube was removed and the patient made an uneventful recovery.

In this case of functional obstruction, adequate suction drainage contributed to a rapid recovery without surgery.

Case 2. The patient was an 81-year-old colored man admitted to the hospital March 21, 1951, with rather complete, non-strangulating mechanical obstruction of the small bowel. He had sustained a gunshot wound in the abdomen 25 years previously. The presence of congestive heart failure and severe dehydration and electrolyte imbalance made conservative therapy mandatory in the immediate post-

admission period. A Miller-Abbott tube would not pass into the duodenum despite numerous efforts by various technics. Some, but not adequate, decompression was obtained with this tube. A Devine tube was inserted rather easily into the duodenum under fluoroscopic control, and 4,100 cc. of dark brown, malodorous intestinal contents were aspirated in the first 24 hours. For the next 3 days, 3,000 cc. of intestinal fluid was obtained each 24 hours. This fluid gradually assumed a more normal appearance. The patient was given supportive therapy to prepare him for surgery.

Five days after admission a laparotomy was performed. The entire proximal gastrointestinal tract was found to be well decompressed except for some dilatation of the 6 inches of jejunum between the tip of the tube and the site of the obstruction. The proximal jejunum was threaded on the tube. Exposure was easily managed since distention did not interfere technically. The jejunum was found to be adhered to the old, upper abdominal gunshot wound. The offending adhesions were severed by sharp dissection. The twisted jejunal limbs were adherent to each other; these bands were severed, thus entirely freeing the jejunum. In addition, adhesions between a short segment of the transverse colon and the old abdominal wound were also severed.

The postoperative course was complicated by a febrile episode, and during most of the hospital stay, the patient was maintained on gastric tube feeding and intravenous fluids. However, he made a gradual recovery and was ultimately discharged in good health.

This is a case in which the very poor physical condition of the patient made it imperative that prompt and efficient decompression be secured in order that the patient could be carried on conservative therapy until he could be built up sufficiently to tolerate surgery.

Case 3. The patient was a 37-year-old colored female who was admitted February 1, 1951, with findings and symptomatology of acute pelvic inflammatory disease with pelvic abscess.

After treatment with penicillin 100,000 units every 3 hours; streptomycin 250 mgm. every 3 hours and sulfadiazine grams 1 every 4 hours without relief, the patient was taken to the operating room February 8 for pelvic laparotomy and excision of the

right tubo-ovarian abscess. A cigarette drain was left in the wound. Postoperatively the patient continued a septic course and developed stony hard tympanitic distention. She was treated with a Levine tube from February 10 to February 12 without exceptional progress. On that date an air-vent tube was inserted plus a Devine rectal suction tube, with prompt, definite results. Gastric drainage of 3,000 cc. was obtained in 6 hours, and the patient had 4 bowel movements within 12 hours. On February 17 the patient was started on intravenous terramycin 500 mgm. every 12 hours. After rapid progress with effective suction and proper chemotherapy the tube was removed February 19. The patient was eating by mouth and able to be out of bed in a chair. Her temperature resolved by lysis. Improvement continued and patient did well for 3 days. On February 22 she again became distended, apparently with true mechanical obstruction rather than adynamic ileus which the postoperative episode was thought to be. Her temperature and white count continued to drop. The Levine tube was reinserted immediately but changed 24 hours later for an air-vent tube with prompt relief of distention. A barium enema on February 26 revealed no abnormality of large bowel. On March 1 progress of tube halted in terminal ileum. A subsequent barium injection, March 2, showed obstruction. The tube was withdrawn slightly and a second x-ray (March 3) showed passage of barium. The tube was clamped and the patient put on feedings by mouth exclusively. On March 4 the tube was removed. During the last 4 hospital days the patient got along well, was out of bed and eating low residue diet with no apparent ill effect.

In this case the air-vent tube was used to overcome a post-operative adynamic ileus, and later to relieve the distention of true mechanical obstruction.

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THE PRACTICAL MANAGEMENT OF ALOPECIA

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Only too often the general physician and dermatologist feel at a complete loss in the practical approach to the problem of alopecia. To be sure there is a great dearth of knowledge on the subject but with relatively pertinent questioning the etiological factors may be elicited and a logical plan of internal therapy and reasonable external management may be instituted.

First of all, one must remember that alopecia is a serious problem with the patient, no matter what the physician may or may not think of its importance. In some, it has already caused considerable psychic trauma, and others, who do not receive proper consideration, soon find themselves in the hands of the charlatan and advertising trichologist.

Although the classifications of alopecia may not always be clearcut, and at times almost overlapping, one must arrive at some plan of questioning that will lead to a diagnosis of the individual case. Such a line of inquiry may be somewhat as follows:

1. How long has your hair been falling?
2. Over what part of the head does the hair loss seem to be the greatest?
3. How much do you brush your hair?
4. How much hair remains on your comb each time you use it?
5. Is your hair dry or oily?
6. Do you have dandruff, scaliness or itching of the scalp?
7. Do you use a hair pomade, tint, lacquer, shampoo, etc.?
8. Have you had a permanent wave recently?
9. Is your skin dry or oily?
10. What is the condition of your fingernails?
11. Do the nails break off easily?
12. Have you had an infection in your throat, teeth, or otherwise?
13. Have you been ill or had a fever?
14. Have you been taking sulfa or other medicine?
15. Have you been on a diet of late?
16. Have you had a baby recently?
17. Do you get adequate rest?

18. Have you suffered from shock or been under an emotional strain of late?

From this information, plus additional individual questioning, and a general physical examination, one should be able to make a diagnosis. This will enable the physician to classify and study other cases, and give the patient a reasonable explanation for the hair loss and what to do about it. The following classifications are suggested:

1. Premature alopecia
2. Seborrhœic alopecia
3. Toxic alopecia
4. Endocrine alopecia
5. Deficiency alopecia
6. Nervous alopecia
7. Alopecia areata and alopecia totalis
8. Senile alopecia
9. Hereditary alopecia

The physical check-up should be made with a view to bringing out any endocrine or vitamin deficiencies, foci of infection, nervous syndromes, etc. Special attention should be given to the skin, nails, teeth, tongue, and hair distribution.

Laboratory tests such as a urinalysis, basal metabolism, blood sugar, blood cholesterol, microscopic examination of the hair and scalp for fungus, parasites, and other organisms are sometimes of value. A wood light should be available to study the hair for fluorescence.

This article does not propose a discussion of alopecia due to trauma, permanent waves, or x-ray. Neither do we consider it practical to go into the rare congenital or atrophic anomalies of the hair. Alopecia due to ringworm has been adequately discussed in the current literature during the past few years. Folliculitis decalvans and pseudopelade are classical but rare forms of alopecia and better studied in a dermatological text.

In estimating the degree of hair growth expectancy one must bear in mind that the normal rate of hair growth is believed to be less than one-half millimeter per day. The average length of female hair is 65 cm. and for males 10 cm. The life cycle

of the hair is about four years.

Seymour¹, Trotter², Danforth³, and others have studied the effect of factors that modify the degree of hair growth, such as sunlight, shaving, season, temperature, and cutting. These influences are often variable and yet very definite in many cases.

ALOPECIA PREMATURA

In this condition the hair usually begins to fall before the age of twenty-five. The progress is slow and each regrowth of hair is weaker and more sparse than the preceding. The vertex is usually the first area involved, or it may begin in the anterior area associated with a recession at the sides. It may or may not be accompanied by dandruff or seborrhoea.

In such cases the patient is more often a younger person who is overworked or worried. The general health is below par, and every effort should be made to build up the patient with such remedies as crude liver extract, thyroid extract, vitamins, especially vitamin B complex, calcium, and other minerals. If the fingernails are soft and break off, and there is a history of early cavities in the teeth, or excessively perspiring palms, calcium is especially indicated.

Locally, mild doses of ultraviolet, three or four stimulating doses of x-ray, 37½ R units to the front and vertex of the scalp, at two or three week intervals will be beneficial. Frequently small doses of x-ray will check hair fall. Adequate fresh air, exercise, and mental relaxation are in order. Massage and brushing should be moderate in such cases. A relatively soft brush should be used.

A suitable stimulating hair lotion would be as follows:

R		
	Tincturae Capsici	drams ii
	Tincturae Cantharidi	drams i
	Spts. Myrciae q.s. a.d.	oz. iv

Sig:

Apply to scalp with moderate friction each night.

If the scalp is too dry ten to thirty drops of castor oil, olive oil, or coconut oil may be added to the above prescription. The oil may also be massaged into the scalp separately with the tips of the fingers.

SEBORRHOEIC ALOPECIA

Whether seborrhoeic alopecia is a form of premature alopecia or the forerunner of senile alopecia is difficult to say, but for purposes of this paper it is a type of baldness which appears in association with

premature alopecia or in individuals from thirty to fifty years of age. Its predisposing factors seem much the same as premature alopecia, except that the scalp is much more oily, and apparently favors the growth of such organisms as the *Pityrosporon ovale* and secondary pyogenic infections.

Electrotherapy, such as ultraviolet and x-ray, as mentioned in alopecia prematura, are essentially the same. Definite improvement should result from such therapy and may be sustained by proper local treatment.

Sulphur in one form or another is beneficial especially around the hairline. Colloidal sulphur cream, with or without one to two per cent salicylic acid, or two to five per cent precipitated sulphur in vanishing cream or cold cream, may be used effectively. The newer ointment bases such as aquaphor, H-B ointment base, B. & W. ointment base, and chlocream (Upjohn) are suitable vehicles. Most of these wash out readily.

In addition to the foregoing applications for the hairline area, a lotion is advised for the remainder of the scalp:

R		
	Olei Lavendulae	gtts. viii
	Resorcinol Monoacetate	drams i or drams ii
	Acidi Salicylici	drams ss
	Spts. Vini 85% q.s. a.d.	oz. vi
	Sig:	
	Apply to scalp at bedtime.	

At first the hair should be shampooed twice a week preferably with a vegetable oil, alcohol shampoo, namely, tincture of green soap, or one of the many detergents, such as Tersus, Drene, etc. Following is a suitable shampoo formula for oily hair:

R		
	Olei Lavendulae	1.3
	Sodii Carbonatis	2.0
	Soft Soap (U.S.P.)	120.0
	Isopropyl Alcohol	48.0
	Triethanolamine	7.8
	Aqua q.s. a.d.	240.0

Sig:

Use as shampoo.

TOXIC ALOPECIA

This type of alopecia frequently follows a chronic debilitating disorder, or severe illness associated with fever. Foci of infection, exfoliative dermatitis, and reaction to drugs, such as thallium, arsenic, sulfa,

penicillin, may also enter into the etiology. Not long ago the writer encountered an epidemic of paratyphoid in nurses accompanied by many cases of moderate alopecia.

It is obvious that treating the cause must come first, while local stimulating therapy should be similar to that described under alopecia prematura. In such cases the scalp is frequently very dry and scaly. A cocoanut oil shampoo, such as emulsified cocoanut oil, is recommended. Moderate massaging with lanolin, olive oil, or cocoanut oil is advised.

ENDOCRINE ALOPECIA

Undoubtedly the endocrines play an important role in alopecia. At times they appear to be a very singular factor, and in some cases their effects are quite obvious. In most cases one cannot immediately place a finger on the particular gland at fault, thereby failing to get the proper therapeutic response to individual hormone medication. Patience is especially necessary in thyroid therapy since the therapeutic effects of thyroid medication are frequently not discernible in less than two weeks.

Hypothyroidism as seen in myxedema gives a rather definite picture with thin, dry, sheenless hair, together with the other signs of dry, pallid, lifeless skin, and short, brittle nails.

The average case of so-called hypothyroidism is usually a combination of hypopituitary and hypothyroid function combined. Our best results with thyroid have been seen in young girls from 12 to 16 years of age, and in cases where the endocrines, vitamins, liver, etc., have been used as adjunctive and synergistic therapy. It must also be noted that even hyperthyroidism can cause alopecia.

Much more has been done in the relationship of hair growth in hypo and hyper action of the pituitary, ovaries, and gonads. Whether these glands produce their effect on the hair primarily, or with some secondary action with the thyroid, is beyond the scope of this paper. We believe the thyroid is the gland of greatest importance in the growth of hair. It has been said that the loss of hair in women is often accompanied by signs of masculinity. Many cases of hirsutism have been relieved by removal of the ovaries and adrenal tumors. In the treatment of such cases it would seem that hormone therapy should either not be used at all, or only where a most

thorough endocrinological study reveals a true basis for its use.

Local therapy must be aimed at remedies that might stimulate latent hair growth, such as moderate brushing, combing, massage, ultraviolet, and stimulation with high frequency diathermy. A suitable prescription for an oily scalp would be:

R
Tincturae Capsici ----- drams ss
Quinine Hydrochloride ----- gr. xv
Spts. Myrciae ----- oz. iv

Sig:

Apply to scalp with moderate friction at bedtime.

If the hair is dry, a little lanolin, olive oil, cocoanut oil, or light mineral oil may also be used.

DEFICIENCY ALOPECIA

Various reports in literature indicate the important role vitamins play in alopecia. Alopecia of this type frequently follows in individuals who have been on reducing diets. It is especially noted in those in whom the diet has caused too rapid or too great a weight loss, and has not been properly supplemented with adequate vitamins and minerals.

Vitamins A and B are the more important vitamins in hair development. Vitamin A deficiency causes the hair to be dry and brittle. There is also an atrophy of the sebaceous and sweat glands. In vitamin B deficiencies an alopecia plus premature graying of hair is frequently noted, the lack of calcium pantothenate being the chief cause of the latter. A deficiency in the unsaturated fatty acids, sometimes referred to as vitamin F, may likewise play a role as yet undetermined clinically.

In the category of deficiency alopecia we propose to include that large group of women whose hair falls out rapidly from 30 to 60 days after the termination of pregnancy. It appears even in women who have good prenatal nutrition including vitamin D and calcium. As a rule the hair fall is diffuse, and the loss may be as high as 25 to 50%. The fall is quite alarming, and adequate reassurance must be given the patient as to hair regrowth. In our experience three exposures of superficial x-ray 37½ R units to four areas of the scalp frequently stops this hair fall. We have checked the foregoing with several other dermatologists who concur that x-ray in small doses will check hair loss and stimulate hair regrowth. Other useful remedies include intramuscular injections of crude liver extract—two units to

the cc.—once or twice a week. Calcium by mouth or better intravenously is also beneficial. Injection therapy is especially preferable where one is working against time to stop the hair loss. It may later be followed by oral therapy.

NERVOUS ALOPECIA

In this group one finds the person who has developed a fixation about his hair loss. Various types of subjective feelings, such as pruritus, pricking, crawling, and burning occur; these are frequently associated with a moderate, gradual hair loss. Occasionally there is secondary infection from scratching. In many cases the problem is the result of nervous shock. It may be a prominent factor in those seeking careers where their appearance is of paramount importance. Deficient protein and carbohydrate metabolism or improper oxidation of fats may enter into the picture. Sedation, calcium, and other minerals, regulation of the environment, adequate rest, and proper psychiatric management are necessary. Local applications with counter-irritants are important. Antipruritic agents and antibiotics, or other antiseptics, may be necessary to combat the secondary infection. Lotions suggested under alopecia prematura and alopecia senilis may be used.

Many times scalp pruritus develops from worry over loss of hair, or some guilt complex of earlier life. Many patients have made up their minds that there is a definite germ causing their pruritus, and that it is necessary to kill this germ before the pruritus will cease. Frequently it is well to agree with them, giving them medicines which will build up their resistance and relieve their nervous apprehension. Dexedrine, intravenous bromides, calcium, and liver may be used. These measures subserve the purpose of restoring faith in the patient's own desire to get well, and at the same time building up the general physical condition which may help to throw off the agonizing mental obsession.

ALOPECIA AREATA AND ALOPECIA TOTALIS

Although it has been the general purpose of this article to deal with the more diffuse types of baldness, we would probably be amiss to overlook this common problem.

Very definitely the nervous system plays an important role in the etiology of alopecia areata. Shock, fright, worry, anxiety, and exhilaration are frequent causative factors. Most physicians are well aware

of the sudden loss of hair in spots. Frequently the condition is not noticed until the patient goes to the beautician or barber. Occasionally there is a slight itching. Usually there are but one or two circular areas of complete alopecia ranging in size from two to three cm. This is generally the extent of the hair loss. At the end of the first or second month a regrowth is noticed either at the perimeter or in the center of the lesions. The condition may likewise appear in the beard where it is often quite persistent and more diffuse. We have studied these cases from the standpoint of foci of infection but have been unable to substantiate any relationship. Cases have been reported after having had dental work performed. Whether these cases are the result of the shock and fear that some individuals have of dental procedures, or an interference in the sympathetic relation of the nerves of the scalp and teeth may be open to question. Absolute reassurance is necessary in cases of alopecia areata. Hair regrowth usually does not recur for three to six months. Local therapy is of little avail, but stimulating local remedies may be used, such as applications of phenol followed immediately by alcohol, silver nitrate—10 to 15%, Kromayer light, ultraviolet, and even mild doses of x-ray. Three to six per cent sulphur precipitate and oil of cade in petrolatum may be used. Massaging the areas with lanolin or castor oil is said by some to be beneficial.

Alopecia totalis usually, but not necessarily, develops in early life, varying with areas of incomplete to complete hair loss. It has been our experience that these cases follow a nervous inferiority complex of some type. Proper psychiatric study and guidance may be necessary. Oftentimes a complete change of environment and climate is beneficial. We are aware of the type influenced by pregnancy, i.e., while the patient is pregnant the hair will grow in, only to revert to the total alopecia state following the termination of pregnancy. In all cases of alopecia totalis adequate mental rest is essential.

Very few cases of alopecia areata become alopecia totalis.

Savil⁴ has collected numerous theories relative to the various causes of alopecia areata and alopecia totalis. Sabouraud criticized his own findings, and those of others, to the effect that there is always a tendency toward hypothesis and conjecture.

SENILE ALOPECIA

The exact period of onset of senile alopecia differs in each individual. It is associated with other geriatric traits, such as loss of teeth, drying and wrinkling of the skin, graying of the hair, etc. The hair fall is usually slight, but can be quite sudden. The vertex of the scalp is the first area affected, with the process gradually extending towards the forehead. The hair becomes sparse, dry, and short. The pattern is often similar to that of alopecia prematura. Males are more often affected than females. Some authorities consider alopecia senilis merely a late stage of alopecia prematura. Many women are greatly alarmed at the possibility of total baldness. It is very rare to see marked baldness in women from forty to fifty years of age.

The treatment of this condition appears to be essentially one of good hair hygiene, i.e., washing the scalp every two to four weeks with an oil type shampoo or a detergent when preferable. In all cases massaging the scalp with small amounts of olive oil or liquid petrolatum should supplement the washing. Vitamin therapy either by mouth or by injection gives moderate satisfaction in some cases—not so much in the regrowth of hair, but in the pres-

ervation of the already existing suit. When itching is an associated factor a general physical checkup is essential. Superficial x-ray therapy—usually two or three applications of 37 R units—will give symptomatic relief. Calcium gluconate and crude liver extract, as well as the antihistamine drugs may also be helpful.

HEREDITARY ALOPECIA

This accounts for most of the more unusual congenital hair anomalies seen from birth. Rattner⁵ has shown that patterning is a physiologic inherent trait. Over-growth of hair and contrasted colors are of the same primate trait, and could account for the so-called patterning in some forms of hereditary and premature alopecia.

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1835 Eye Street N. W.

Floral Eponym

LILIUM GRAYI

ASA GRAY (1810-1888)

This best known of all American botanists has only an insignificant lily named for him. Asa Gray graduated in medicine in 1831 from the Medical College at Fairfield, but never practiced. His interest in botany led to an association with Dr. John Torrey which lasted many years. He became assistant professor of chemistry and botany at the College of Physicians and Surgeons. Later he became curator of the New York Lyceum of Natural History and in 1842 he became Fisher Professor of Natural History at Harvard, a position he held for thirty years. He retired in 1872 but continued his literary work until he was paralyzed in 1887, nine weeks before his death, January 30, 1888.

ADMINISTRATION OF POTASSIUM TO SURGICAL PATIENTS IN A 150 BED HOSPITAL*

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Much has been written in the past few years about the administration of potassium to surgical patients. Most of this work has emanated from university centers. But does the average surgeon see cases in which potassium administration is indicated? We believe that he does and wish to demonstrate the point by presenting several cases.

The recent stimulus to potassium studies has been found in the popularization of the flame photometer. This is an instrument on which potassium and other electrolyte determinations can be performed rapidly. The flame photometer† is an expensive instrument and requires a highly trained person for its operation and maintenance. Therefore, at the present time it is impractical for use in smaller hospitals. Because of this the surgeon must depend on the history and physical examination, an occasional chemical determination of potassium, and the electrocardiogram, plus certain routine chemical laboratory tests that are available to him, such as chloride determination and carbon dioxide combining power.

Schilling,¹ and his group state that the symptoms of potassium deficiency can be divided into two groups. The first group is characterized by the acute onset of skeletal muscle weakness and may occur in chronic nephritis or diabetic acidosis with dehydration. The second group occurs more slowly in the postoperative period, usually from the fourth to the tenth day. This is characterized by drowsiness, languor, paralytic ileus, anorexia, and weakness.

These symptoms, as you can see, are non-specific and may be associated with other disease entities also. It is relatively rare that a surgeon sees patients exhibiting symptoms of the first group, but we believe the second group of symptoms is not uncommonly seen in the postoperative state.

Up until 10 years ago it was thought that potassium was almost entirely an intracellular ion, and

sodium an extra-cellular ion. It was also thought that the cell membrane was impermeable to these ions and that there was very little transfer of them across the cell membrane. According to Marks,² Evans,³ and others, in the past decade potassium has been shown to move out of the cell in glycolysis, hemorrhage, shock, dehydration, alkalosis, and whenever the excretion of potassium is greater than the intake. The last, of course, is of prime importance when one is dealing with surgical patients.

Surgical patients are often maintained on parenteral fluids deficient in potassium for long periods of time. It has been repeatedly shown that excretion of potassium by the kidneys continues in spite of a deficient intake. This, of necessity, produces a depletion of the body potassium. Also, many surgical patients have prolonged vomiting or Wangensteen suction or fistulous openings with loss of potassium-containing secretions. It has been thought by some that the excretion of potassium postoperatively may be accelerated as a part of the injury reaction.

Elman⁴ found that on six patients having cholecystectomies there was a gradual fall in the amount of sodium and chloride excreted, thus showing an efficient conserving mechanism for these ions in the absence of any intake. On the other hand, potassium and phosphate tended to be excreted at a uniform rate in the first 24-hour period and in some cases there was a greater output during the second 24-hour period than the first. In spite of this, the 96-hour cumulative loss was fairly small; for potassium it was 81 ME. The loss was accompanied by no significant changes in the blood levels of these electrolytes. Elman's conclusion was that in present day parenteral alimentation the routine replacement of potassium is probably indicated on the basis of the fact that loss of this element should be replaced. He admits, though, for short periods of time it is unlikely that small deficits of this electrolyte will cause any serious physiological impairment.

Evan's³ work confirms Lockwood's⁵ conclusion that if gastric suction is continued beyond four to five

*Read at the annual meeting of The Medical Society of Virginia at Virginia Beach, October 7-10, 1951.

From Jefferson Hospital, Roanoke, Virginia.

†Less expensive and more fool-proof flame photometers are becoming increasingly available and this may answer the problem for the smaller hospitals in the not too distant future.

days, provision should be made for the intravenous administration of adequate doses of potassium salts.

Darrow, Lockwood,⁵ Evans,³ Marks,² and others have all described a form of hypochloremic alkalosis that is refractory to saline administration. It has been found in most of these patients that there is a deficiency of body potassium. Darrow, in a recent personal communication, states: "I don't believe we have an explanation of how or why a loss of intracellular potassium leads to a loss of chloride and alkalosis nor how or why chloride deficit with alkalosis leads to a loss of potassium from the cells. It could be a change in renal excretion or membrane equilibrium. However, I am inclined to believe it is renal with perhaps some change at the membranes. We and others are studying the problem which is very complex for it involves the complex interrelationships of renal excretion of electrolyte. Perhaps in a few years we shall at least be able to describe what happens. Certainly, we shall know what conditions lead to acid urine in the presence of alkalosis and what renal loads lead to loss of potassium."

Sedgewick⁶ has called attention to the fact that the serum potassium levels are not necessarily an index of intracellular potassium. Evans³ states that "potassium deficiency can exist in the presence of normal plasma potassium levels" and goes on to suggest that since equipment is not generally available to the average surgeon for these analyses, the surgeon should suspect potassium deficiency whenever there is an uncorrected alkalosis after adequate water and sodium chloride therapy.

Darrow⁷ states that 3.5 ME per kilogram in 24 hours is a safe dose. He recommends that it be given by slow drip in not less than 4 hours and preferably in 8 hours or longer. Hypodermoclysis is used almost exclusively for parenteral administration because he believes it is safer. Marks² states that the largest dose of parenteral potassium that he has administered was 10 gms. given by clysis over a period of 8 hours. He recommends that when large doses are indicated they be given by mouth if possible. The main precaution to be observed, according to him, is the maintenance of an adequate urinary output. He insists on a daily urinary output of over 750 cc.

Martin⁸ states that in serious chronic deficits he gives 10 to 20 gms. of potassium chloride intra-

venously over a period of 24 hours, or 10 gms. intravenously and 10 gms. orally if the oral route can be used.

We would like to present three cases that we have recently seen at Jefferson Hospital in which we believe potassium played an important part in their course.

Case 1. C.A.B., Hospital No. 92340: The first case is that of a three year old white child admitted to Jefferson Hospital on January 4, 1951, with a three-day history of nausea, vomiting, and abdominal pain. At the time of admission she appeared acutely ill. Her temperature was 101 and pulse rate 120. The physical examination was negative except for the abdomen and this revealed generalized tenderness and spasm over the entire abdomen, but more marked in the right lower quadrant. Her white count was 15,400. The impression was acute appendicitis with possible perforation and peritonitis.

She was operated on shortly after admission. On opening the peritoneal cavity a large quantity of pus was found. The appendix was gangrenous and perforated. An appendectomy was performed and streptomycin and penicillin were placed in the peritoneal cavity. A subfascial drain was inserted. Postoperatively the patient was given both streptomycin and penicillin in adequate doses and aureomycin rectally. The first day of hospitalization she was given 500 cc. of 5% glucose in normal saline and 500 cc. of 5% glucose in water. She was placed on liquids by mouth, but vomited all that she ingested. The following morning she was given 500 cc. of 5% glucose in water by hypodermoclysis. She continued to vomit. Her pulse was rapid and weak and she was semi-stuporous. Her blood chlorides that day were 65.5 ME (normal 77-86 ME). Her CO₂ was reported as 38 volumes per cent or 16.5 ME (normal 23-31 ME).

After obtaining these laboratory reports, she was given 500 cc. of 5% glucose in normal saline as well as 500 cc. of sixth molar sodium lactate. The abdomen at this time was distended.

On January 6, her second postoperative day, she was restless, but sleeping at intervals. Her CO₂ combining power that day was reported as 66 volumes per cent, or 28.7 ME. The chlorides were 67.2 ME. Potassium on that day was 4.55 ME (normal 4.6-5.4). She was given 500 cc. of 5% glucose in normal saline and 500 cc. of 5% glucose

in water that day.

On January 7, her abdomen was still distended. She continued to vomit and she remained semi-stuporous. A Levine tube was inserted and Wangenstein suction was started. She was given 800 cc. of 5% glucose in normal saline and 200 cc. of blood that morning. Her CO₂ combining power that morning was reported as 75.9 volumes per cent, or 33 ME, and her chlorides were 67 ME. In spite of the fact that her serum potassium had been at almost normal levels the preceding day it was felt that she had a potassium deficiency as evidenced by her chlorides and CO₂ combining power and her clinical condition. Therefore, she was given 30 ME of potassium chloride in 500 cc. of normal saline. This fluid was given subcutaneously and over a period of approximately 6 hours. Before the infusion was completed it was noted that there was a rather marked change for the better. Five hours after completion of the fluids it was noted that she expelled a large amount of flatus spontaneously. The next morning when the attending surgeon came on the floor the child was asking for food and was playing with toys. The duodenal tube was removed and she was started on small amounts of soft food and fluids. After that no further intravenous feedings were necessary. Her potassium January 8th was 4.7 ME; chlorides 67.2 ME; CO₂ 56 volumes per cent, or 24 ME.

On January 10th her CO₂ combining power was reported at 26 ME (normal 23-31) and her chlorides were 69 ME (normal 77-86). She was discharged well on January 16th.

Case 2. Mr. I.G.H., Hospital No. 92786: This 28 year old man was admitted February 8, 1951. For the past five to six years, he had been having burning epigastric distress, relieved by food and soda. Also there had been intermittent episodes of nausea and vomiting, and, since July, 1950, he had vomited almost every day. For the entire month before admission he had been on a liquid diet, and any solid foods ingested would induce vomiting almost immediately. The patient had lost 35 to 40 pounds in the six months before admission. Gastro-intestinal series at another hospital had revealed a complete pyloric obstruction.

Physical examination revealed an emaciated young man who was acutely dehydrated; otherwise, the examination was negative. His laboratory data on

admission showed a white count of 8,250 and hemoglobin of 15.0 gms. Blood potassium the day after admission was reported as 3.75 ME (normal 4.6-5.4). Blood chlorides on February 10, 1951, or one day later, were reported as 65.5 ME (normal 77-86 ME), the CO₂ combining power was 68 volumes per cent, or 29.5 ME (normal 23-31 ME), and the total proteins were 7.6. Urinalysis and serology were negative.

The patient was prepared for surgery in the usual manner. He was given blood, amino acids, vitamins, and placed on gastric suction. In addition to this, he was given the following quantities of potassium chloride mixed in with his intravenous fluids for the day and administered slowly. On the 9th of February he was given 60 ME; February 10th, 80 ME; February 11th, 80 ME; February 12, 40 ME. On this date a subtotal gastric resection was performed. Potassium level that day was 3.55 ME. On February 13th, blood chlorides were 60.3 ME, CO₂ combining power was 88 volumes per cent, or 38.2 ME. That day 80 ME of potassium were given. This same amount was given on the 14th and 15th of February. On the 15th the potassium was 5.6 ME. The chlorides were 70.7 ME. On February 20, 1951, his 8th postoperative day, the CO₂ was 58 volumes per cent, or 25.2 ME. The potassium was 5.6 ME.

Pre and postoperatively this man was given a total of 500 ME, or 37.25 gms. of potassium chloride administered over a 7 day period of time.

The patient's postoperative course was uneventful. It is difficult to evaluate exactly what part potassium played in preparing this patient for surgery, since all other agents were utilized also. It was the clinical impression of those who saw the patient that his lethargy improved after administration of potassium, but it may well have been that correction of his dehydration played the larger part. Certainly in the preoperative preparation of a patient, we attempt to bring his entire chemical balance and his nutrition to as near normal as possible.

Case 3. Mrs. L.R.H., Hospital No. 84173: This 47 year old woman was admitted to the Jefferson Hospital March 3, 1951, with a complaint of cramping pains in the lower abdomen of 18 months' duration. These symptoms had started about two months following a supravaginal hysterectomy for myomata uteri and had been progressively more severe. Dur-

ing the six months prior to admission she had had almost constant abdominal pain which had become increasingly severe and had required daily narcotics for relief of pain. Increasing dosages of narcotics had been taken, and it was thought by the referring physician that the patient was an addict at the time of admission.

Physical examination revealed moderate abdominal distention with intestinal patterns easily visible and marked voluntary muscle spasm throughout the lower abdomen. No definite mass was found on abdominal examination. On pelvic examinations, however, a hard, fixed, firm mass was found which had replaced the cervix and was extending slightly into the broad ligaments and superiorly into the floor of the bladder. Sigmoidoscopic and X-ray examinations were not satisfactory due to poor cooperation of the patient, but there was evidence of a partial obstruction in the sigmoid with marked dilatation of the small intestine. She was placed on sulfathaladine by mouth as preparation for colon resection and two days before operation on streptomycin.

On March 9, 1951, the pelvis was explored. A hard carcinoma of the cervix was found which had invaded the urinary bladder and there was direct extension to the mid portion of the sigmoid which was attached in this area and also one loop of ileum which was almost completely obstructed. The ileum and sigmoid were each resected. The left ureter was tremendously dilated and both the left and right ureters went into the mass. It was necessary to transplant both ureters into the rectosigmoid below the sigmoid anastomosis. The lower 2-inches of each ureter was then removed along with the bladder, cervix, and what remained of the round and broad ligaments and pelvic peritoneum. No evidence of remaining malignancy was present grossly.

Postoperatively the patient's course was relatively satisfactory except she appeared constantly weak and lethargic. On the sixth postoperative day potassium level was 3.44 ME. The following day she was started on oral potassium chloride 10 grains

twice a day which was continued. On the 11th postoperative day the potassium level was 3.6 ME. The potassium by mouth was increased on that day to 10 grains three times a day. On the following day the patient appeared to be much brighter for the first time and was interested in getting well and increasing her activities. On the 13th postoperative day the potassium level was 6.1 ME. The potassium was then discontinued and the patient's remaining hospital course uneventful. It was the impression of the physicians in charge that there was a definite correlation between the potassium level in this patient and her mental outlook and amount of muscular activity performed.

SUMMARY

The routine postoperative administration of potassium to surgical patients is probably not indicated, but in certain selected cases its use can greatly affect the eventual outcome. We have presented three cases in which we feel that its administration was definitely of value.

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GERIATRICS UNLIMITED*

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The word "geriatrics" was coined in 1909 by the late Dr. Ignatz Nascher, of New York City, to denote a branch of medicine devoted to the diagnosis and treatment of disease in the aged. It is derived from two Greek words meaning "old age" and "relating to a physician." Geriatrics is really a subdivision of a broader field of knowledge, gerontology, which is a study of all the varied divisions of the biological, physical, and social sciences pertaining to age or aging of animal life from amoeba to man. This includes aspects of biology, embryology, pediatrics, geriatrics, economics, statistical research, education, and even history. It is indeed a broad field as it encompasses man's whole process of development from the embryo to senility. Now, perhaps, it will be obvious why I have employed the adjective "unlimited" in the title of this paper.

"The days of our years are threescore years and ten and if by reason of strength they be fourscore years, yet is their strength labour and sorrow; for it is soon cut off, and we fly away." So said the psalmist thousands of years ago and so is the problem with us today.

The inception of my own interest in geriatrics was accidental. I was reared in St. Petersburg, Florida, the geriatrics capital of the country and probably of the world. Here the fortunate aged in ideal climatic surroundings have an opportunity of passing their declining years in pleasant companionable retirement of the resort type. That this is but a small part of geriatric management will later be apparent. Secondly, my parents taught me to respect gray hair for its own sake. I have not found this rule of conduct without its delusions, but these have been few and on the whole it seems a good one. Thirdly, the practice of internal medicine is by necessity among increasing numbers of old people. More recently the Health Division of the Richmond Community Council has set up a Committee on Geriatrics of which I am a member and the current chairman. Some of you, particularly

the younger members, will observe that I too am growing old.

Historically, interest in the problems of the aged is not new. The hieroglyphic for old age, found on inscriptions dating back to 2700 B.C., is the figure of a bent old man with wasted muscles bowing on a staff. In an Egyptian wisdom book of 1580 B.C., "The Precepts of Ptah-Hotep," is a passage which reads, "To be old is evil for people in every respect." Hippocrates, called the father of medicine, who by the way lived to be 104, wrote about the frequency of catarrh in the aged. The Spartans were governed by a council, the Gerontes, made up of men over 60 years of age. Roger Bacon in the thirteenth century wrote of age. In 1724 Floyer published the work on the treatment of the diseases of the aged, "Medinica Gerocomica." Incidentally, he was the first physician to count the pulse by using a watch and the first to prescribe mineral oil, a drug today still helpful to the aged. In 1849 Day wrote on "Diseases of Advanced Life." Not until 1941 was the American Geriatrics Society founded. Its bi-monthly journal is called *Geriatrics*. The Gerontology Society was founded in 1945 and publishes *The Journal of Gerontology*.

Now what is the factor which has brought about this recent impetus to the importance of geriatrics? The answer is relatively simple though its implications are complex and at the same time quite perplexing. It is that the civilized population as we know it has steadily grown older, and, furthermore, there is reason to believe that it will continue to grow older. For example, the French naturalist, Buffon, observed that in the animal kingdom the duration of life exceeds its growth by a factor between five and seven. Thus, for man this would give him a life expectancy somewhere between 105 and 150 years. Other members of the animal kingdom, for example, the sheep, dog, and horse, normally attain this optimum but man has not as yet. Man's death rate at the age of ten is only one in 1,450, and if this rate could be projected he might live to be

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550. However, I must not go too far afield in the romance of statistics.

In Greece during the Iron and Bronze Ages life expectancy was 18 years, and some 2,000 years ago it was 22 years. In England in the Middle Ages it was 35, and by 1850 this had increased to 40.9 years. (Fig. 1). In the United States as a whole

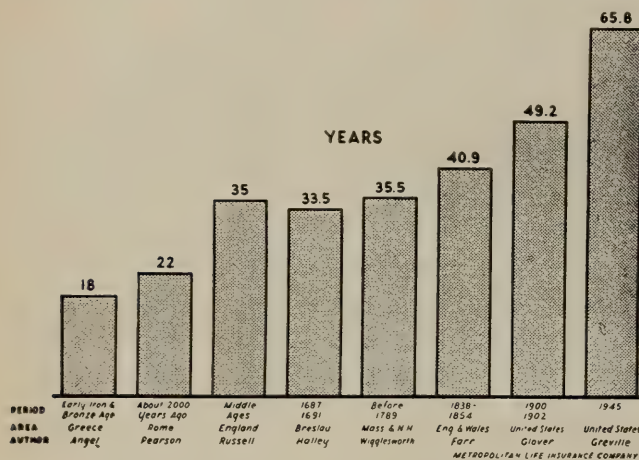


Fig. 1. (Courtesy of Edward J. Stieglitz, Geriatric Medicine, W. B. Saunders Co.)

in 1900 it was 47 years; by 1930 it had jumped to 60; and today it is somewhere between 67 and 69, being two years longer for females than for males. (Fig 2).

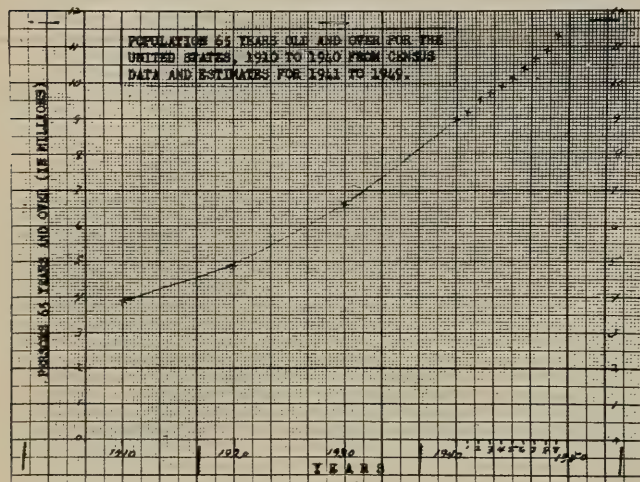


Fig. 2.

That civilization makes the difference rather than centuries is illustrated by the fact that the best records for longevity today are made by English speaking and Scandinavian countries. Ten years ago New Zealand had a life expectancy of 67 years as compared with 62 in the United States. In Mexico life expectancy in 1930 was 33.3 years. The poorest

records are found in Asia and Africa. India in 1931 had an expectation of life of slightly less than 27 years, not much better than that of Rome 2,000 years ago. In Egypt in 1936-'38 the life expectancy was 38.6 years or 24 years less than our own average.

Here in Virginia the statistics are equally startling. In 1880 there were 55,800 people 65 years of age and older. (Fig. 3). In 1940 there were

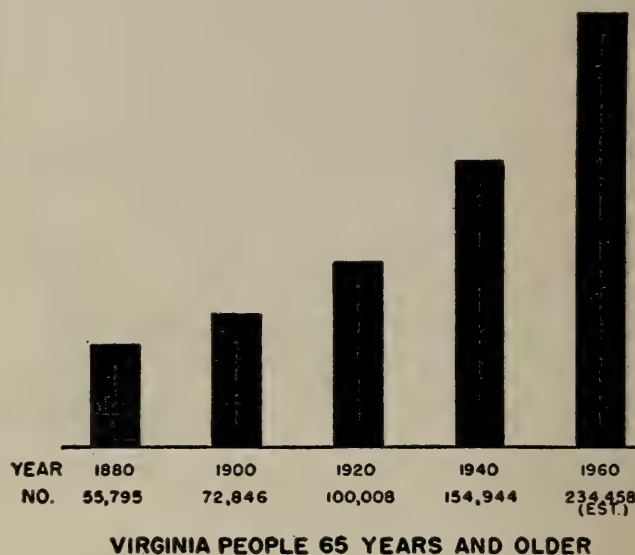


Fig. 3.

155,000. Today there are about 190,000. Stated in a different way, 3.6 per cent of Virginia's population was 65 or older in 1880; 5.8 per cent in 1940; and this will increase to an estimated 6.9 per cent in 1960, with the national figure being about 8.2 per cent.

In the ten years between 1930 and 1940 the total United States population increased 7.2 per cent while those over 65 increased 35 per cent. By 1949 there was a further increase of 21 per cent when the total United States population over 65 was 11,270,000.

In Richmond in 1940 the population over 65 was 11,450, and last year it was 13,288, an increase of 16.1 per cent in nine years, whereas the total population increased only 5.8 per cent. What are the factors which have brought about this almost sudden increase of life expectancy from 47 years at the turn of the century to over 67 years, a 20 year increase in the last 50 years, more than all of the increases since the Middle Ages?

As a physician and a member of the American Medical Association, I am justly proud that this increase has been due in a large measure to the work

of physicians and allied scientists working under a free enterprise system of government. This to me is the strongest argument against regimenting a profession which has given the world its best health and longest living. Let me hasten to add that we physicians are the first to agree that medical care can be improved, but the burden of proof rests with those who say that working under any other system would produce equal if not better results. But let us not lose our golden thread of geriatrics which is the fruition of our efforts and for the moment the theme of this paper.

In the first place, the falling of the birth rate by one-third in the first forty years of this century has diminished the number of young people in this country. Secondly, the almost complete cessation of immigration, which formerly added large numbers of young people, has had a similar effect. Thirdly, we have conquered to a major degree the infectious diseases. For pneumonia, the second cause of all deaths in 1900, we have specific remedies in the sulfonamides and antibiotics. Likewise, these drugs are efficacious in a wide spectrum of infectious diseases due both to bacteria as meningitis, typhoid, erysipelas, and to rickettsiae and viruses as Rocky Mountain spotted fever and typhus; and even tuberculosis for which we do not yet possess a specific remedy, has dropped from first place as a killer in 1900 to seventh place in 1946, or from 195 to 36 per 100,000 persons. Improvements of prenatal and postpartum care have added immeasurably to the chances a child has in life because he or she is well born.

Similarly in the field of pediatrics great strides in nutrition and immunization have strikingly reduced infant and child deaths from diarrhea, diphtheria, and marasmus almost to the vanishing point.

Again, you and I are seldom aware of the public health safeguards constantly thrown about us which add immeasurably to our years. I refer to water purification, milk pasteurization, inspection of public eating places, modern sewage disposal, inspection of meats and other foods not only for bacterial contamination but for quality and adulteration. You and I are not afraid to eat or drink in places approved by our health authorities. Few other world citizens can make this statement.

The first five killers in 1900 were tuberculosis, pneumonia, diarrhea, heart disease, and nephritis.

Cancer was eighth. In 1946 the first five were heart disease, cancer, violence, cerebral hemorrhage, and nephritis. Tuberculosis is now seventh. The deaths from heart disease in 1900 were 137 per 100,000 persons; in 1946 were 307 per 100,000 persons. Thus the infectious diseases which killed young and old alike have been largely conquered leaving an increasing number of people to die at an older age of what we refer to as the degenerative or, if you please, geriatric diseases.

The Metropolitan Life Insurance Company has analyzed its causes of death and discovered that 53.1 per cent of deaths in 1901 were due to the so-called chronic diseases. In 1945 this figure had increased to 81.6 per cent, a 28 per cent increase in 44 years.

Mortality statistics, while impressive, do not give us the total picture of what increased longevity means to our social and economic order. Of 3,000,000 people studied in 1935-'36, nervous and mental disorders invalidated 269,000 persons; circulatory disorders 205,000; joint diseases 147,000; and so on. While we have more people living longer, we have geometrically increased the number who because of their longevity have fallen prey to incapacitating impairment of their health. The medical profession has done a good job, but by doing so has upset a fundamental balance of nature for which serious counter measures are now in order. Dr. Edward L. Bortz, past president of the American Medical Association, has aptly stated, "The society which fosters research to save human lives cannot escape the responsibility for life thus extended. It is for science not only to add years to life but, more important, to add life to years."

It is estimated that by 1980 one in ten will be over 65 years of age. Of the estimated total population of that year, 60,000,000 will be too young for productive work 20,000,000 will be by present standards too old to work. This leaves a working population of 80,000,000, half of which will be housewives and homekeepers leaving 40,000,000 productive workers to carry the burden of supporting 160,000,000 people. This seems preposterous and therefore almost untenable. Society then must do something about it for survival.

From the medical point of view geriatrics should not be considered a separate medical specialty, but rather an attitude toward the management of the aged. It is not proposed to set up specialized clinics

for the management of the diseases of the aged, nor to train geriatricians who limit their practice to those 65 and older. Dr. Stieglitz and other experts in this field have warned against this approach.

However, there are special problems to be considered by every physician who deals with older people. The diseases which commonly invalid older people can be grouped under four headings: (1) circulatory disorders which include arteriosclerosis, hypertension, and their special effects on the brain, heart, kidneys, and extremities; (2) metabolic disorders, such as diabetes, anemia, climacteric and gout; (3) malignant tumors; and finally (4) the arthritides. The older patient may have one or usually several of these disorders, and because of their gradual onset be unaware that he is becoming ill. Their progression is certain and spontaneous. Remission rarely if ever recurs. Hence, early recognition is imperative, and prompt treatment for alleviation, if not cure, should be instituted. Acute disease is far more serious in the presence of chronic degenerative processes which, unfortunately, not infrequently serve to mask it.

Reaction to injury is less vigorous, and resistance to infection less effective. Nutrition presents a separate problem. The gastro-intestinal tract of the elderly is less efficient as an absorbing organ. Though the intake may seem adequate, assimilation is often faulty. Hence, vitamin and mineral requirements are greater in order to compensate for decreased utilization.

The elderly man or woman has developed life long habits including proper or improper use of laxatives. The wise physician does not try to make sudden changes in these habit patterns although they seem to violate sound physiological teaching.

Certain drugs are poorly tolerated by the aged. An average dose of morphine may cause respiration to cease as the metabolic fires are low. Bromides may cause psychosis as do the barbiturate sedatives in some. Tolerance for alcohol on the other hand may actually be increased. The aged tolerate operative procedures extremely well if the scope of the surgery is not too broad and radical.

Psychiatrically the aged have at times very complicated problems reaching back over many years. Patience and forbearance are essential in handling not only these but all geriatric problems. The aged patient does not wish to be hurried, nor does he de-

sire to be treated as a child, nor have his doctor casually blame his symptoms on old age and pass it off as this. It is this attitude of patience and understanding which embodies the geriatric approach.

We now have the problem squarely before us. What are the measures which we have begun to evolve for its solution? As you will see, it is not primarily a medical problem, but more a socio-economic one.

We are living in an era which makes man feel that he can and ought to solve all problems from Alaska to Ethiopia and from the Kremlin to Korea, but there are those who are beginning to believe that man may be getting "too big for his breeches" in trying to take on the solution of problems, which are perhaps too big for him, and which had better be left to the good Lord using man in His own time and His own way. Because man has eaten of the apple of atomic energy, he is emboldened to prowl through the cosmic Eden as innocently as little Red Riding Hood and as boldly as Don Quixote, and I am afraid with as disastrous or as useless results, unless perhaps he not too belatedly recalls that he is mortal and not on the Almighty's Board of Directors. So, far be it for me or any other mortal to offer any satisfactory solution to the problems of geriatrics. However, I do not believe we should calmly fold our hands and leave Providence to solve our difficult problems. Progress has never been made this way. Therefore, it would be appropriate to outline first some of the steps which have been taken in Virginia, and then nationally.

From Robert H. Kirkwood's "Fit Surroundings," which, by the way, is a most readable pamphlet on the history of the care of the aged and poor in Virginia, we find our first efforts were patterned after the Elizabethian Poor Laws of 1601. In 1619 the London Company charter gave the governor of Virginia authority to provide for the relief of the destitute. In 1646 the Virginia Assembly passed its first act pertaining to the workhouse. This was passed under the guise of providing for poor children, but really came as a result of English economic interests in setting up the flax industry in Virginia with the cheapest labor. So far as can be determined, no such workhouses were ever built under the terms of the act.

In 1755 an act for employing and better maintaining the poor was passed. The law authorized the vestry of each parish to erect, purchase, or hire buildings to house the people dependent on church

wards for relief. In 1785 the care of the poor was removed from the vestry and made a responsibility of the state by setting up almshouses under the direction of a superintendent of the poor who was responsible to the county board of supervisors. In 1910 there were 109 alms houses in Virginia, and in 1947 the number was reduced to 22, thirteen in counties and nine in cities.

In 1769 the Eastern State Hospital was established, the first state hospital for the insane in America, and the first for the negro insane. The first school for the deaf and blind in America was established in Staunton soon after 1887.

In 1918 the first district home legislation was passed, and the first home was established in Manassas in 1927, in Waynesboro and Dublin in 1928, and in Chatham in 1929. The district home provides for cooperating counties to pool their resources for a more economical solution of the indigent aged. The total number cared for in 1948 was 264, of which 55 were bedridden, 85 were served meals in their rooms, and 220 or 79.2 per cent were over 65 years of age. In April of 1949 there were 189,278 persons 65 years of age and over, of whom 17,605 or 94 out of every 1,000 were recipients of old age assistance. At that time \$37.75 was estimated to provide minimal essentials for adequate physical maintenance. Of this, subtracting income from other than state sources, the average old-age-assistance case cost the state \$24.32 per month. Richmond in July of 1950 was caring for 674, or 5 per cent of her population over 65, in approved geriatric facilities.

Louisiana financially aids 834 of every 1,000 persons 65 years of age and older; Georgia, 546; Texas, 506 (Fig. 4). Shades of Huey Long, Gene Talmadge, and Pappy O'Daniel! Virginia's 94 of 1,000 looks pitifully or gratifyingly small depending on your social philosophy. I would like to think that we Virginians take better private interest in our old people and thus have a substantially less burden on the state. Fortunately, the problem of what to do with the aging population is not a problem that the state has to decide by itself. Nationally, of 100 persons past 65 years of age, 34 are still working, 18 live on income and pensions, 17 get private assistance from families or relatives, 9 live on income from investments, and only 22 get public assistance. Thus 78 per cent of the people in the nation pass the age

NUMBER OF OLD AGE ASSISTANCE RECIPIENTS PER 1000
POPULATION 65 YEARS OF AGE AND OVER IN TWELVE
SOUTHERN STATES AND THE NATION, MAY 1949

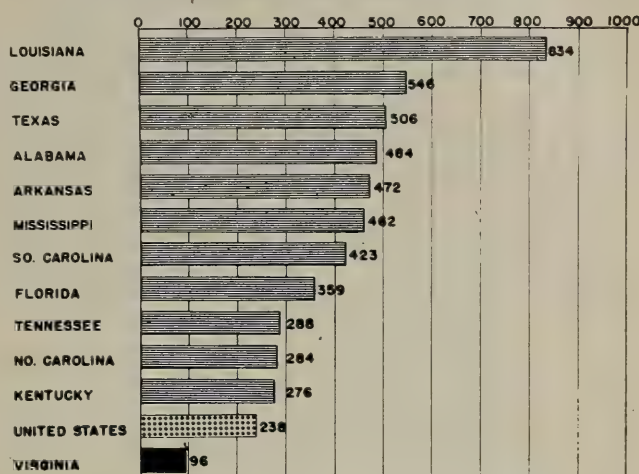


Fig. 4.

of 65 can and do look after their own retirement, and if the state leaves them alone they can probably do a better job.

I recently attended in Washington a conference on aging under the auspices of the Federal Security Administration. Over 800 delegates from all over the country convened for three days to study the various aspects of gerontology. There were about nine major sections each charged with a particular aspect of the problem. These nine sections were divided into 28 sub-committees, and reports were made on research, population changes, employment, income maintenance, health maintenance, rehabilitation, education, family life, housing, recreation, religious, services, community organizations, and the recruitment and training of professional personnel with reference to the needs of older persons. There were doctors, educators, industrialists, labor leaders, clergymen, insurance experts, social workers, and, of course, government representatives. At the closing session of each section a resolution was handed down from the Federal Security Administration proposing that this be called the first conference on aging and that the Federal Security Administration be requested to allot money and to explore further the field of gerontology. Dr. Stieglitz, one of the country's pioneer geriatricians, arose to remind one session that there had been a committee on gerontology and geriatrics in the United States Public Health Service for ten years and recommended that the resolution be tabled. It never reached the final assembly for action, and Mr. Oscar Ewing spent about 15 minutes of his closing remarks

reading from Tennyson's "Ulysses," a non-controversial poem. However, it seems to me that such conferences are worthwhile in spite of their auspices.

Recently, Congress by amending the Federal Security Act of 1935 has increased the benefits of old age pensions from 75 to 100 per cent. Industry is working on methods to increase usefulness of older workers whose skill and experience are of great value. Labor is clamoring for increased retirement pensions and is making substantial progress. Politically, the aged are making their voices heard.

Recently, a college in New York, founded by a retired professor with a faculty of retired professors, has discovered their usefulness in the field of adult education. A consulting engineering company, made up of retired top flight engineers, has also set up offices in New York, and its members are proving their worth by reason of their seasoned experience. Thus, instead of stagnating in idle retirement, older people are re-channeling their efforts into fields useful to the community as a whole. Many cities are setting up recreational and consulting sources directed toward the solution of the problem.

According to a survey made among 3,000 Minnesota policy holders, only about one-third if given their choice, wanted to retire at 65; one-third wanted to ease off or change occupations; and one-third wanted to keep right on working. Of those that chose to retire, 60 per cent preferred to retire in their home towns. Of those that wanted to live elsewhere, most chose Florida with Southern California as a close second. The Pacific Northwest and the Arizona-New Mexico areas just about tied for third place. Forty-three per cent checked warm climate as their first or second consideration. Obviously this has a sound physiological basis. Sixty-two per cent preferred to live in a small town; 31 per cent preferred remote country areas; and only 7 per cent wanted to live in a large city.

In closing, I would like to direct your attention to our local problem and what is being done to solve it. Richmond is an unusually fortunate city for the aged. History and antiquity are venerated here because of the long continuity of families and business. Older men control most of the city's financial and professional life. Changes come about more gradually in a city whose roots lie in so glorious a past. According to Dr. Stieglitz, respect for the aged varies with the cultural age. The Chinese, whose

culture is oldest, have what to us is an exaggerated veneration for the aged: namely, ancestor worship. The average American attitude toward the aged is nearer one of disrespect. Witness the common slang of the day for old people, "Hi, Pop," or "Okay, Grandma." Dr. Stieglitz further observes that disrespect for age is an index of the immaturity of our total culture. Buster Brown, he continues, would be a better national symbol than our white haired Uncle Sam. I am proud to say that in Richmond this attitude toward the aged is more mature and hence more respectful. Richmond then affords an unusually favorable environment for the aged. Richmond has a heart and has always done a good job in looking after the destitute and needy even though modern welfare-state advocates may not agree or approve its method.

In January, 1948, the Inter-Faith Council was asked to report on general plans then operating for older members of our local citizenry. This report, signed by Mrs. Donald Zimmerman, did much to spark the interest in geriatrics in Richmond. Later that year Dr. C. Howe Eller became the first chairman of a geriatrics committee of the Richmond Community Council Health Division. This committee, a sub-committee of the Community Council's Committee on Problems of the Aged, headed by Dr. E. W. Gregory of the University of Richmond, has gathered material and made plans for further study of the over-all problem. During the past year, under the auspices of the committee, two lectures on geriatrics for the junior medical students at the Medical College of Virginia were introduced for the first time in this state. These are now a regular part of the medical curriculum.

A survey of all nursing and home facilities for chronic disease was made by the City Health Department this year; 1,455 beds are at present available with 80 per cent occupancy, creating a total of 483,401 patient days. This number includes the City Home, Pine Camp, and private and charity nursing homes.

Richmond has about 14,000 citizens who are 65 years of age and older. This presents a real challenge. They represent not only a problem, but, if guided properly, a genuine asset of experience and wisdom. The Geriatrics Committee hopes to solicit the interest of Richmond's many churches and synagogues in helping to formulate group activities such

as work-shops for men, sewing circles for women, and companionship for all. Geriatrics is unlimited, and interest in it must be widely aroused not only among professional groups but among the population as a whole.

Although age is inevitable, at times depressing, occasionally catastrophic, we must not lose sight of the fact that so may be childhood and middle life. We can well adopt the philosophy of that great English bard, Robert Browning, when he said of age in his immortal Rabbi Ben Ezra:

"Grow old along with me!

The best is yet to be,

The last of life, for which the first was made:

Our times are in His hand

Who saith 'A whole I planned,

Youth shows but half; trust God: see all, nor be afraid!'"

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The author wishes to thank Mr. Clayton F. Mayo, statistician of Richmond Department of Health, for help in preparing statistics and slides.

1000 West Grace Street

New Type Needle Reduces Spinal Anesthesia Headache.

Lessening of headaches following spinal anesthesia with the use of a new needle in the administration of the anesthetic was reported in the Oct. 13 J.A.M.A. The needle, much finer and smaller than the customary one, has a sharpened, pencil-point-like tip, according to the authors of the article, Drs. James R. Hart and R. J. Whitacre, of the department of anesthesiology of the Huron Road Hospital, East Cleveland, Ohio.

Although a multitude of theories have been given for the causes of such headaches, Drs. Hart and Whitacre stated it is generally believed they follow leakage of cerebrospinal fluid through the puncture hole made by the needle in the outermost membrane of the spinal cord. This loss of fluid support from the brain is believed to cause tension on blood vessels and brain nerves, resulting in a headache. In

a test, 2,070 patients were administered spinal anesthesia with an ordinary needle. One hundred and three of them (five per cent) complained of the typical spinal type of headache, the report stated. Of 3,489 patients on whom the pencil-point type needle was used, only 69 (two per cent) developed headaches.

The headaches which occurred following the use of the pencil-point needle were, for the most part, shorter in duration and of less severity than those after use of the customary needle, the report added.

"These results are very encouraging and lend support to the opinion of earlier workers that such an approach may point the way toward a means whereby the percentage of postspinal headaches can be reduced," the doctors stated. However, they added, much more experience will be needed to confirm these findings.

MULTIPLE OSTEOCHONDROMATA OF THE HAND— Report of a Case.

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and
B. K. MUNDY, M.D.,
Lynchburg, Virginia.

H. A. A., white, male, age 33, admitted to hospital November 22, 1948; discharged December 6, 1948. Occupation—odd farm work. Hospital number 2226.



Chief Complaint: Deformity of left hand.

Past Medical History: Measles, flu and whooping cough.



Present Illness: Patient injured left hand in sewing machine treadle at the age of 11 months. Has had continuous bony tumor of painless and not changing size and type since he can remember.

Physical Examination:

Head: No evidence of trauma.

Eyes: Pupils equal and active.

Nose: Good air passage.

Throat: Large tonsils present.

Teeth: Dirty and carious.

Chest: Clear to percussion and auscultation.

Heart: Not enlarged. No murmurs. Blood pressure 140/88.



Abdomen: Liver and spleen not palpable.

Extremities:

Left Hand: Tumors dorsum of left hand.

1. On 2nd metacarpal—size small orange.
2. On index finger—size marble.
3. On third finger—size marble.

Motion is free. Index finger extensor tendon and that of third finger displaced to medial side of finger.

X-Ray Left Hand—November 23, 1948.

The larger tumor of the four measured 5.5 x 4.6 x

3.7 cm. attached to the bone by a wide base type composed of bone differentiated into cancellous and cortical zones.

Operative Note: November 24, 1948.

Anesthesia: Sodium pentothal—1½ grams.

Operation started: 12:15 P.M.

Operation ended: 2:15 P.M.

Pre-Operative Diagnosis: Bone tumors left hand.

Operation: Removal of multiple bony tumors from left hand, posterior surface of middle and index fingers.

Post-Operative Diagnosis: Bone tumors left hand.

Findings and Procedure: Incision was made over large tumor on dorsum of hand down to and exposing the tumor which was removed from its base by osteotome, removing the cortex of the 2nd metacarpal bone which was thoroughly curetted down to the end



including the medullary canal. The tumor was attached to this bone for a distance of two-thirds of its length and a large mass of bone was then separated between the 2nd and 3rd metacarpal bone all of which was removed. The other tumor on the index

and middle fingers were removed down to and including the cortex of the bone tendon. The skin was closed with silk. Dressing applied and patient left the operating table in good condition.



Progress Record:

11-28-48: Hand dressed. Clean.

11-30-48: Doing nicely. Hand dressed yesterday and found clean.

12-4-48: Stitches removed.

Discharge Note:

12-6-48: The skin wound has healed without any inflammatory reaction. The patient still has light dressing over the incised area. Discharged home to return in two weeks.

Micro: Osteochondromata.

Final Diagnosis: Osteochondromata, multiple, left hand.

Patient failed to return for post operative photographs of the left hand.

703 Church Street

EOSINOPHILIC GRANULOMA OF THE SKULL; REPORT OF FOUR CASES OF A BENIGN BONE LESION

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and

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Richmond, Virginia.

INTRODUCTION: About 72 cases of this disease (eosinophilic granuloma) which can occur practically anywhere in the skeleton, have been reported in the medical literature up to 1949 (Hill¹). The lesion is commonly observed in children and adolescents, although some cases are seen in older individuals. Thomas Smith in 1865² was probably the first to report a patient of this type. When found in, for instance, the skull, it is necessary to have films made of most, if not all, of the bones of the skeleton before one is justified in stating that it is an isolated or single lesion in any individual case. The disease has a predilection for flat bones; apparently it is associated with abnormal lipoid metabolism also, and must occasionally, in children, be distinguished from Hand-Schuller-Christian disease which in turn is associated with exophthalmos, polyuria (diabetes insipidus) and feeble-mindedness, features not found in eosinophilic granuloma.

The modern recognition and description of the disease (eosinophilic granuloma) was first recorded only a decade ago. In 1940, separate reports by Otani and Ehrlich³ and by Lichtenstein and Jaffe⁴, within two months of each other, established the lesion as a disease entity. These authors described a solitary lesion of bone in which the medullary space was replaced by a granuloma packed with a multitude of eosinophiles. Hatcher⁵ also, in 1940, described this lesion in three children, the preoperative diagnosis being sarcoma of long bones.

The cause of the disease is uncertain. Local trauma and an infectious agent, possibly a virus—both have been indicted as etiological factors. There are no symptoms of generalized illness, no fever, malaise, loss of weight or anemia. The patient

usually consults his physician because of local symptoms, associated with the growth of the bony tumor, or there may be *no* symptoms at all and the disease is accidentally discovered during routine examination of roentgenograms. *Localized tenderness*, even, occasionally, *exquisite pain*, at the site of the lesion, is an important symptom and was present in all four cases to be presented in this paper.

The roentgenograms usually reveal a localized, sharply punched-out area of bony rarefaction, with no surrounding reaction of bone (Osborne, Freis and Levin⁶).

Cases with visceral lesions (jejunum) have been observed by Polayes and Krieger⁷ who concluded (1950) that at present there is no evidence to indicate any relationship between this intestinal type of eosinophilic granuloma and that of bone marrow more frequently seen and reported in the literature. They did stress, however, that similar cases (eosinophilic granuloma of the jejunum) have probably been overlooked in the past. They believe their case to be the first of its kind in medical literature although other chronic types of intestinal granulomas have long been described. Interesting cases of rib and femur involvement have recently been reported.^{8, 9}

In many of the cases of eosinophilic granuloma of bone, a very mild eosinophilia varying between 4 and 10% has been found, particularly in *early* cases, according to Campbell and Alexander¹⁰; this was not true, however, in our 3 detailed cases (*q. infra*).

There has been no other consistently abnormal laboratory finding although studies of blood lipids, blood cholesterol, total protein of blood, serologic tests for syphilis and urine tests for Bence-Jones protein have been repeatedly carried out.

PATHOLOGY: Eosinophilic granuloma usually starts as a well-localized lesion in the medullary cavity of a bone with a tendency to erode, expand and perforate the cortex. In the calvarium, it may erode either inward or outward and several cases have been recorded in which a considerable area of

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the dura and even the brain underlying the bone lesion have been directly involved. Baker and Fisher¹¹ have reported four cases (1948). They found in one case (*Case I*) direct invasion of the cortex of the brain. One cerebral convolution (left parietal) was excised in a circular manner in order to remove the greater portion of the lesion. The tissue was firm, gray and adherent to the dura. Microscopically, an extensive cellular infiltrate, with a predominance of eosinophilic leucocytes and many lymphocytes, occurred. A few cells may have foamy cytoplasm and large phagocytic cells may be present. Occasional multinucleated giant cells are seen. Post-operatively, the patient had Jacksonian convulsions (right-sided) and continued to have them for several years in spite of grains 2 of phenobarbital a day. The attacks disappeared when the total fluid intake was reduced. Another of their cases (*Case III*) had bilateral choked disks (1 diopter) although the granulomatous mass had only slightly penetrated the dura after involving both tables of the skull. X-ray therapy was given post-operatively and more than four years later the patient was working steadily without convulsions although he had had Jacksonian seizures for a considerable period post-operatively.

At the time of operation, the lesion may grossly seem malignant, appearing grayish pink, soft and friable, usually invading both tables of the skull; often the dura and even the brain beneath may be involved.

Gross and Jacox¹² believe that Hand-Schuller-Christian disease and eosinophilic granuloma of bone have common features in that both conditions are associated with destruction and replacement of normal tissue by a granulomatous proliferation in which endothelial cells predominate. Eosinophilic participation occurs in both conditions. Some pathologists believe that eosinophilic granuloma is a type of reticulo-endotheliosis and that it is identical with Hand-Schuller-Christian disease. Mallory¹³ believed the two to be variants of each other, a third variant being Letterer-Siwe's disease which, in infancy, is rapidly progressive and fatal. A review of pertinent papers on the pathology of these three diseases suggests a definite relationship between them.

Jaffe and Lichtenstein¹⁴ also concluded (1944) that the three conditions just mentioned actually are different clinico-anatomic expressions of the same

basic disturbance. They said that the three diseases are peculiar inflammatory reactions to the same, as yet unknown, agent of infection and that individual lesions are characterized by the presence of large numbers of histiocytes. Geschickter and Copeland¹⁵, Snapper¹⁶, and Coley¹⁷ fully discuss this disease entity in their well-known authoritative monographs on bone diseases.

DIFFERENTIAL DIAGNOSIS: The following lesions are often considered as possibilities preoperatively in the reported cases of eosinophilic granuloma: metastatic carcinoma, gumma, tuberculoma, vascular tumor and Boeck's sarcoid. In addition, Hill¹ has added to this list: meningioma, epidermoid cyst, osteomyelitis, Ewing's tumor of bone, osteitis fibrosa cystica, multiple myeloma and osteogenic sarcoma. Still other lesions to be considered in the differential diagnosis are suggested by Osborne, Freis and Levin⁶, viz., solitary bone cyst, enchondroma, Gaucher's disease, giant cell tumor of bone, neuro-fibromatosis and gout (especially in lesions of hand and foot bones).

REPORT OF CASES

CASE I: The patient, number B.11841, a 19-year-old white female, was admitted to the Medical College of Virginia Hospital on June 28, 1943. Her chief complaint was "tumor on my head." She was supposedly in good health until one month prior to admission, when she developed pain in the top of her head just to the right of the midline. Several days later the patient began to notice a small "knot" which was progressively increasing in size. She had experienced no generalized headache, but the *slightest touch* of the scalp over the area of the lesion produced exquisite pain. For a short time before admission the patient experienced mild tenderness in the right ear. There was no history of deafness, vertigo, visual disturbance, or other significant neurological symptoms.

Physical examination revealed a mass 3 cm. in diameter and approximately 1½ cm. elevation in the right parietal scalp near the midline. The scalp in this area was exquisitely tender, but there was no perceptible redness or increased temperature in the skin. Neurological examination was entirely negative. Routine laboratory work revealed a white count of 6,700 with 62% polys, 32% lymphocytes, 5% monocytes, and 1% eosinophils. Urinalysis and blood Wassermann were negative. X-ray films of

the skull revealed a punched-out mass, approximately 2 cm. in diameter in the right parietal bone.

On June 30, 1943, the patient was operated upon under local anesthesia, using 1% procaine. A 7 cm. curved linear scalp incision was made just posterior and above the 3 cm. scalp mass. The scalp flap was reflected back, the galea was found to be adherent over an area approximately 2 cm. in diameter. This was dissected free, exposing a soft tissue mass which comprised the tumor. The neoplasm was excised in toto and sent to the laboratory for examination. A trephine opening was then made adjacent to the bony lesion in what was apparently normal bone. The diseased area was rongeured away along with the rim of what was apparently normal bone. The dura was pale and healthy in appearance and there was no evidence of tumor invasion. The wound was closed and the patient returned to the ward in good condition. The pathological (microscopic) diagnosis was eosinophilic granuloma. The postoperative course was uncomplicated and the patient was discharged on July 8, 1943, eight days after operation.

CASE II: The patient, number B.50446, a 24-year-old white female, was admitted to the Medical College of Virginia Hospital on August 23, 1948, with a history of right frontal headaches of four months' duration. She also had noticed a small, hard swelling in the lower right frontal region which, according to the patient, varied in size, and on occasion caused swelling with bluish discoloration of the skin adjacent to the right eye. Pain over the area of swelling had been so severe that it prevented the patient from sleeping, but it was not of such intensity that it could not be relieved by aspirin. There were no other complaints except anorexia with a weight loss of 25 lbs. in the year prior to admission. There was no history of visual disturbance, dizziness, tinnitus, memory loss, weakness, fainting, vertigo, or other significant neurological symptoms.

Physical examination revealed a very nervous, tense, white female, who was not too cooperative and answered questions reluctantly. There was an exquisitely tender pea-sized nodule palpable in the right frontal scalp and skull. This nodule apparently was adherent to the bone but did not appear to be adherent to the skin. There was moderate tenderness for a one inch radius about the nodule. There was no erythema and no increased skin temperature about the

nodule. The routine laboratory work on admission revealed a white count of 7,700, with 71% polys, 1% eosinophils, 25% lymphocytes and 3% monocytes. The urine was negative for Bence-Jones protein the non-protein nitrogen was 25 mgs. per cent. The blood Wassermann was negative. The total protein; the non-protein nitrogen was 25 mgs. per cent. of albumen and 3 grams per cent of globulin. The hemoglobin was 12.6 grams. The sedimentation rate was 13 mm. in sixty minutes. Skull X-ray examination revealed the typical rarefied "punched-out" lesion in the right frontal region which is highly characteristic of eosinophilic granuloma (Fig. 1).

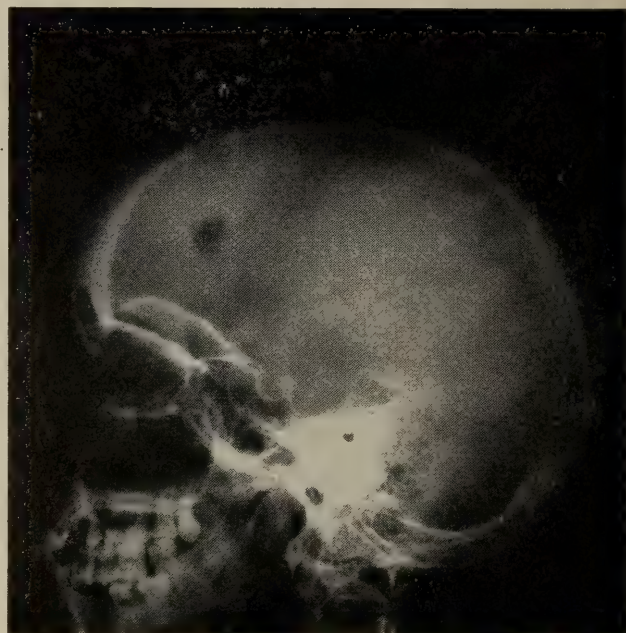


Fig. 1. Case II. Right lateral skull film showing the typical punched-out rarefied appearance of the lesion in the right frontal area that is characteristic of eosinophilic granuloma.

The patient was operated upon on August 26, 1948, with a preoperative diagnosis of possible eosinophilic granuloma of the right frontal bone. Under I. V. sodium pentothal anesthesia, an S-shaped scalp incision was centered over the area of tenderness. After the scalp flap had been reflected backward, a raised area approximately 1 cm. in diameter was exposed. This consisted of soft tissue of a grayish-yellow color. The bone about the margin was ragged and thin, with both tables of the skull apparently involved. A biopsy was taken and the lesion subtotally removed by curettage and with the rongeurs. The scalp incision was then closed with a presumptive diagnosis of eosinophilic granuloma of the bone. Four days later the patient was returned to the operating room

where the previous S-shaped incision was reopened. It was elected at this time to carry out a total removal. A partial craniectomy was then done by use of the rongeurs, excising all the grossly involved bone and a small rim of apparently normal bone about this to insure complete removal. A skull defect approximately 3 cm. x 3 cm. in extent remained. It was noted at this point that the dura was involved by a granulomatous reddish-gray lesion to an extent of about $1\frac{1}{2}$ cm. The dura was opened and the involved dura was totally excised, including a rim of normal appearing dura. The total dural defect measured 2 cm. Inspection of the under surface of the dura revealed a shiny apparently normal dura. The arachnoid was intact and there was no evidence of intradural or cerebral involvement. A small polythene graft measuring 3 cm. x 3 cm. was

fastened and sutured to the dural margins. The incision was then closed and the patient returned to her room. The pathological report was eosinophilic granuloma of the right frontal bone (Figs. 2, 3). The postoperative course was uncomplicated and the patient was discharged on September 4, 1948, nine days postoperatively.

CASE III: The patient, number B.55627, a 21-year-old white female, was admitted to the Medical College of Virginia Hospital on November 24, 1948. Her chief complaint was "a tender spot on my head." The patient was supposedly in good health until seven weeks prior to admission, at which time she noticed a tender area just above the hairline in the left side of her forehead, while combing her hair. A few days later this area became swollen and red. The tenderness persisted and became more severe. During the two weeks prior to admission, the patient had infrequent frontal headaches but they were noticeably of increasing severity. There was no history of nausea, vomiting, visual disturbances, tinnitus, deafness, vertigo, or other neurological complaints.

System review is entirely negative except for a painful nodule in the left labia majora of three days' duration. This had been treated by a local physician with hot sitz baths of magnesium sulfate.

Physical examination revealed a temperature of 100° , pulse 80, respiration 20, blood pressure 110/85. The patient was an alert, cooperative, white female, of apparently normal intelligence. There was a 2 cm. area of extreme tenderness in the left frontal scalp, just posterior to the hairline. There was no perceptible reddening of the skin over the area but slight elevation of the scalp over the area of tenderness could be seen. The neurological examination was entirely negative. The only other significant finding on physical examination was a tender oval mass, approximately 4 cm. in diameter, in the left vulvo-femoral fold. A diagnosis of abscess of the left vulvo-femoral fold was made by the gynecology department. This was incised and drained in the operating room on November 27, 1948.

X-ray examination of the skull revealed a punched-out, rarefied lesion in the left frontal bone, approximately 2 cm. in diameter. A chest film was negative both for pulmonary and bony disease. Routine hemogram on admission revealed a total white count of 12,200, with 79% polys, 1% basophils, 16% lymphocytes, 4% monocytes. The hemoglobin was

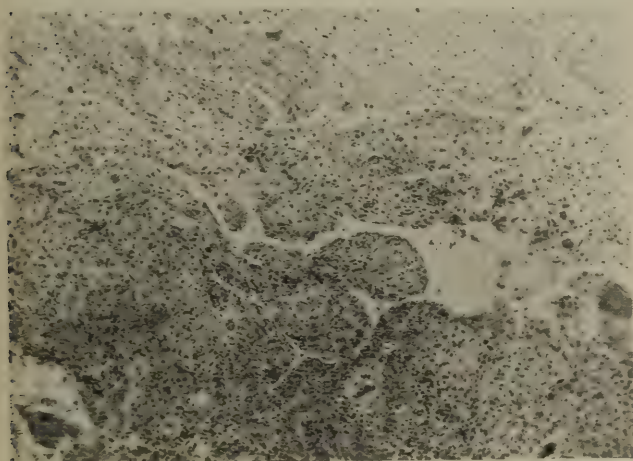


Fig. 2. Case II. Low power microphotograph of tissue removed from right frontal bone. It resembles exuberant granulation tissue at this magnification. H and E x 30.

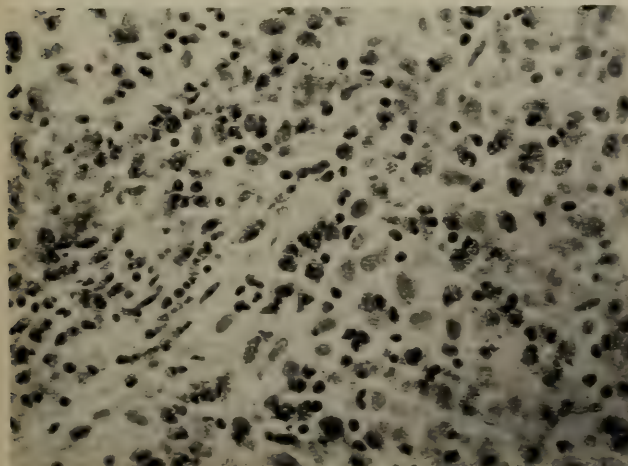


Fig. 3. Case II. Much higher magnification of tissue removed in Case II. The section shows young granulation tissue, rich in fibroblasts and infiltrated with eosinophiles and an admixture of lymphoid cells. H and E x 400.

15.1 grams, with 5 million red blood cells per cu. mm. The urine specimen on admission showed 12 to 15 Wbcs. per high power field with a 1 plus albumen. The blood Wassermann was negative. The diagnosis on admission was eosinophilic granuloma involving the left frontal bone, and incidental abscess of the left vulvo-femoral fold.

On December 1, 1948, the patient was operated upon, using intravenous sodium pentothal anesthesia. A 6-7 cm. incision was made transversely just anterior to the coronal suture on the left side. To obtain better exposure, however, it was necessary to extend this incision in a sagittal direction at the medial end. This adequately exposed the skull lesion, which consisted of a defect approximately $1\frac{1}{2}$ cm. in diameter, which apparently involved both the inner and outer tables. The area of defect was filled with a grayish-red, soft, friable, granulomatous lesion of moderate vascularity. The bone edges were ragged but not particularly soft. The pericranium directly over the lesion appeared to be involved. The pericranium and involved skull area were excised and a specimen sent to the pathology laboratory for frozen section diagnosis. This revealed eosinophilic granuloma; it was elected to carry out a complete excision. A trephine opening was placed in the frontal bone adjacent to the defect and a partial craniectomy carried out around the defect, using bone rongeurs. The excision of bone about the defect was carried out well beyond the margins of the lesion. Total extirpation of the lesion was apparently carried out;

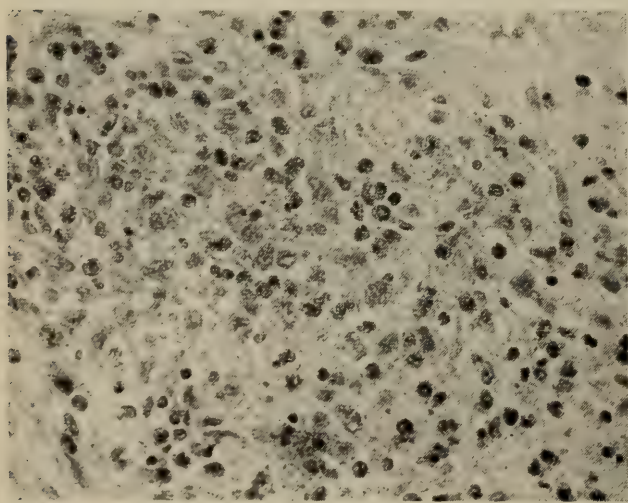


Fig. 4. Case III. Microphotograph of tissue removed from left frontal bone. The appearance is similar to that of Case II (see Fig. 3). This section also shows granulation tissue rich in young fibroblasts and heavily infiltrated with eosinophiles and mononuclear phagocytes (typical microscopic appearance of eosinophilic granuloma). H and E $\times 400$.

the dura did not appear to be involved. It was decided at this time to insert a tantalum plate, which was done. The permanent (H and E) pathological sections confirmed the diagnosis of eosinophilic granuloma (Fig. 4). The post-operative course was essentially uncomplicated and the patient was discharged on December 15, 1948, two weeks after operation.

CASE IV: This patient was not operated on at the Medical College of Virginia Hospital but was seen originally by our associate, Dr. C. E. Troland, at McGuire General Hospital, Richmond. It was the case of a young, adult white male, on whom he operated several years ago, who had a large tender mass in the occipital bone, which Dr. Troland excised and which proved to be, microscopically, a typical eosinophilic granuloma. Approximately one year after craniotomy, the lesion again appeared in the mandible (X-ray verification) and was successfully treated by irradiation only, at the Medical College of Virginia Hospital. So far as is known to us, the patient has been well since that time.

TREATMENT

Therapeutic enthusiasts are somewhat abashed by such statements as that of Hill¹: "*Spontaneous healing is the rule in the course of months, with or without treatment.*" Likewise, Jaffe and Lichtenstein¹⁴ have observed the healing of this disease in cases that have received no treatment, having first verified the disease by biopsy only of the typical lesion seen in the roentgenograms. On the other hand, no less an authority than Copeland¹⁸ states that "*Spontaneous healing is rare,*" and recommends surgical excision or curettage, often combined with mild X-ray treatment; the latter alone may suffice after biopsy. In this latter opinion, the present writers concur. In women with frontal bone lesions, surgical excision *without X-ray treatment* is usually preferred to avoid the risk of epilation, as in Case III reported in this paper. Baker¹¹ believes, however, that the lesion undergoes better repair eventually if, at the time of biopsy, curettage is not done and the lesion is treated solely by roentgen ray therapy. This is due, he states, to better bony proliferation from a spicular matrix. He recommends X-ray therapy rather than nothing at all in these cases.

Of prime importance in the entire consideration of this disease is that it is a *benign bone lesion*, a happy

finding, as often at the onset of the study of the individual case, very serious malignant bone lesions of one type or another must be considered in the differential diagnosis. No deaths directly attributable to the disease have been reported to date in the literature.

SUMMARY

1. Eosinophilic granuloma, a benign lesion of bone, is considered, including a review of the pathology, symptoms, diagnosis, differential diagnosis and treatment of this interesting disease entity which has only rather recently been described in the literature.

2. Four cases of this lesion (involving skull and (or) mandible) are reported.

N.B. The interpretation of the microphotographs (Figs. 2, 3, 4) was kindly supplied by Dr. Saul Kay, Surgical Pathologist, Medical College of Virginia, Richmond.

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ELECTRO SHOCK THERAPY—CENTRAL STATE HOSPITAL

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and

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Treatment reports of 500 psychiatric patients with all types of mental illnesses over the year period of 1950.

Electro shock is an electric procedure and should be given only when it may be expected to shorten the duration of a mental illness. All conditions of patients were appraised after a series of twelve treatments. More treatments were given to manics than to any class of patients. Patients who responded well were given fewer treatments. Most given were twelve, the lesser, three. If the patient didn't respond after twelve treatments, it was discontinued.

CONTRAINDICATIONS FOR SHOCK THERAPY

- A. Cerebral arteriosclerosis.
- B. Coronary diseases.
- C. Over 65 years of age.
- D. Pulse below 40 and above 100.
- E. Epilepsy.
- F. Blood pressure above 180 systole and above 100 diastole.
- G. Fever due to any cause.
- H. Chronic nephritis.

PRESHOCK TREATMENTS

- A. Vitamins, vigrans, one in the morning and one at night.
- B. Two teaspoonsful of milk of magnesia the night before.
- C. The patient is allowed to have breakfast as shock therapy is given for at least four hours after intake of food.
- D. A physical examination done on all patients previous to shock.

POSTSHOCK TREATMENTS

- A. The patient is allowed to sleep as long as he likes.
 - B. The patient isn't allowed to leave the shock bed until fully recovered.
 - C. The patients are examined for possible injury.
- No deaths, directly or indirectly, have been contributed to shock treatments. Sixteen patients had

epistaxis which was easily controlled. Ten slight lacerations of the tongue; none required sutures.

TECHNIQUE

Each patient before being placed on the bed in preparation for shock is examined by a physician for any present pathology that would eliminate the shock treatment. A soft pillow is placed under the patient's head; another pillow under the body and another under the feet. Five attendants, if that number can be spared at the time from other services or two attendants and three oriented and clear patients who are previously taught how to hold a patient, are used as assistants. No restraints are used on the arms or legs of the patients. Previous

RESULTS OF SHOCK TREATMENT IN 500 CASES RECOVERED OR GREATLY IMPROVED

	Cases	No.	Per Cent
Manic Depressive Psychosis			
Manic Type	186	98	53%
Manic Depressive Psychosis			
Depressed Type	122	71	58%
Involuntary Psychosis	33	12	36%
Dementia Praecox, Catatonic	85	63	74%
Dementia Praecox, Hebephrenic ..	14	6	43%
Feeding and Disturbed from any			
Source	60	51	82%
	500	301	60%

experience has shown that restraints such as straps or sheets have a tendency to act as an irritant to the patient during a convulsion. The voltage used, usually ranges from 100 to 140, and the duration of time from 3 to 5 seconds. The usual voltage that takes care of about 75% of the patients is 120 for the duration of 3 seconds. After all, what we are looking for is the voltage that will put the patient into a good strong convulsion. During the convulsion there are two men on either side (one at the shoulders and one at the legs) of the patient and one man with a towel holding up the chin of the patient and also holding the mouth gag in place to eliminate the possibility of the patient biting his tongue. A tongue depressor with gauze wrapped

around it is used as a mouth gag. The attendants are trained not to exert any pressure on the patient but to rise and fall with each movement of the patient. After the convulsion has completely subsided, the patient is turned on the right side and two attendants stay in the room until the patient has completely recovered and is able to stand and walk on his own. The patient is again examined by the ward physician for possible bruises and lacerations, especially of the tongue.

SUMMARY

- A. Of the 500 cases given electro shock therapy, 60% were recovered or greatly improved.
- B. More manics were treated than any other form of mental illness-----308
 Manic depressive psychosis, manic type--186
 Manic depressive psychosis, depressed type 122
 The manics, 53% recovered or greatly improved.
 The depressed type, 58% recovered or greatly improved.
- C. The greatest amount of improvement was shown in dementia praecox, catatonic Type—74%.
- D. Feeding problems and disturbed patients from

other sources than those listed above had a greater percentage, 82% recovered or greatly improved. This is not a true picture as we didn't know what part vitamins played in the feeding problem and how soon the disturbed patients from any other source would have recovered without the electro shock therapy.

E. Visitors at the hospital have often remarked what a quiet place Central State Hospital is, taking into consideration that this is a mental institution. It has been the policy of the medical staff to closely watch the patients and to eliminate a possibility of becoming disturbed with electro shock therapy. Hydrotherapy and restraints have been almost eliminated by the use of shock therapy. It has been the impression and experience that electro shock treatments play a more important role in the treatment of mental patients than any other form of therapy. The writer feels that the chart shown in this article gives a pretty fair and accurate index as to the merit and necessity of electro shock therapy. With a percentage of 60% recovered, or greatly improved, with its use, the writer feels it is a must in every mental institution.

Competitive Athletic Leagues Not Desirable for Children.

Highly organized competitive athletic leagues are undesirable for children and youth of elementary and junior high schools, according to Donald A. Duke-low, M.D., and Fred V. Hein, Ph.D., consultants to the American Medical Association Bureau of Health Education, in November To-Day's Health.

Parents, they pointed out, want their children to have the best possible program of physical and health education, yet many reject the facts derived from exhaustive study of children in the first nine grades. The doctors said they wondered if this is because parents "prefer to bask in the reflected glory heaped upon immature children by an unthinking public which demands the last ounce of effort to win for good old X Junior High School."

According to the article, physical education in school should stress a well-rounded program of instruction for all children, and, for as many as possible, an interesting, extensive program of intramural competition in team, dual and individual sports. This should be supplemented by sports days and play days.

The country's leading educational and medical groups, the doctors stated, have recommended that "interscholastic leagues should be confined to senior high schools. Interscholar activities for junior high school pupils should be limited to occasional meets or games. Junior high school boys should not compete in American football. An extensive program of intramural activities is strongly recommended for these students."

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.,

State Health Commissioner of Virginia.

Public Health As a Career

With rapid expansion in the field of Public Health, physicians are urgently needed to fill existing vacancies and anticipated new positions. Part of this expansion is due to changing concepts regarding the range of public health functions. Public health physicians along with practicing physicians are today, more than ever before, concerned with the problems of chronic diseases and the physical, mental and emotional aspects of aging. The most recent response to the major challenge of chronic disease and disability was the founding in 1949 of a permanent Commission on Chronic Illness by the American Medical Association, the American Hospital Association, the American Public Health Association and the American Public Welfare Association.

As the scope of Public Health increases, there is a continuing demand for services of physicians with special training. Counties and cities throughout the country are recognizing this necessity for appointing such trained men to direct their health departments.

The establishment of a Specialty Board in Preventive Medicine and Public Health by the Council

on Medical Education and Hospitals of the American Medical Association gives a career in public health the recognition of a specialty status.

A noted leader in Public Health, Dr. C. E. A. Winslow, sums up the program of public health in the following statement:

"Public health is the science of preventing diseases, prolonging life and promoting physical and mental efficiency through organized community effort."

MONTHLY MORBIDITY REPORT OF THE BUREAU OF
COMMUNICABLE DISEASE CONTROL

	Nov. 1951	Nov. 1950	Jan.- Nov. 1951	Jan.- Nov. 1950
Brucellosis	5	8	76	60
Diarrhea and Dysentery	253	184	2,948	3,642
Diphtheria	41	18	167	173
Measles	153	78	13,993	2,685
Meningitis (Meningococcal) ..	8	15	110	111
Poliomyelitis	16	82	251	1,156
Rocky Mountain Spotted Fever	1	1	60	75
Scarlet fever	101	93	891	818
Tularemia	0	3	35	37
Typhoid and Paratyphoid ...	11	5	63	84

WOMAN'S AUXILIARY
TO THE
MEDICAL SOCIETY OF VIRGINIA

President..... MRS. HERMAN W. FARBER, Petersburg
President-Elect—

MRS. THOS. N. HUNNICUTT, JR., Newport News
Recording Sec'y MRS. L. BENJ. SHEPPARD, Richmond
Corresponding Sec'y.. MRS. CARNEY C. PEARCE, Petersburg
Treasurer MRS. KALFORD W. HOWARD, Portsmouth
Publication Chairman MRS. ROBT. H. DETWILER, Arlington

Legislative Notes

The convening of the Virginia General Assembly is fast approaching. In this connection I should like to say that in a recent meeting of the Virginia Women's Council of Legislative Chairmen of State Organizations, Colonel E. Griffith Dodson, Clerk of the House of Delegates, urged that we see our

representatives *at home* before they come to the Assembly to let them know our views regarding legislative measures in which we are interested.

Therefore, I urge each Auxiliary member personally to see her own delegates and senators, and ask them to give careful consideration to the Virginia health needs outlined by the Virginia Council on Health and Medical Care. The Council's legislative program has been well thought out and well planned with a view to bettering conditions in the State as a whole. This program is outlined in their Public Opinion Report Number 10 and may be secured by writing Mr. Edgar Fisher, Executive Secretary for the Virginia Council on Health and Medical Care, 102 East Franklin Street, Richmond, Virginia.

Doctor John W. Cline, President of the American Medical Association, in speaking to the Woman's

Auxiliary to the Southern Medical Association in Dallas, Texas, in November said: "You women should remember that you are first *citizens* before you are doctors' wives." Let us remember this and take an active interest in government, local, state, and national during the coming year. By all means be sure to vote in 1952.

LUCIA K. EMLAW, (MRS. MAYNARD R.)
State Chairman of Legislation

Reports from Auxiliaries.

ARLINGTON

Annual Dinner-Dance

The Woman's Auxiliary of the Arlington Medical Society held its annual Doctor's Dinner-Dance on November 16th at the Washington Golf and Country Club with reservations for 75 couples.

Mrs. John T. Hazel, President, greeted the guests and members and introduced the speaker, Dr. Stacy T. Noland of Arlington.

Mrs. Albert J. Orlosky, Chairman of the Social Committee, made all arrangements for the very successful affair.

Benefit TB Handicraft Sale

A sale of handicraft made by TB patients was sponsored by the Woman's Auxiliary to the Arlington Medical Society on November 20, December 1 and December 3rd, at the Arlington Trust Company Bank and the Southern Electric Appliance Inc. in Clarendon.

The attractive leather billfolds, belts, earrings, hand crocheted bedspreads, tablecloths, centerpieces, rugs, corde bags, luncheon sets, etc. were made by convalescents in the homes of Arlington and around Staunton, in the Blue Ridge, Catawba, and Pine Camp Sanatoriums.

Proceeds from the two sales amounted to \$432.20, which was returned to the individual patients according to the price of their articles. This amount was more than double that realized last year from the first sale of TB handicrafts attempted by this Auxiliary.

Thanks go to the staff of the Arlington TB Association for their splendid assistance in planning and conducting this project.

WARWICK

The annual bazaar of the Auxiliary to the Warwick County Medical Society was held at the Elizabeth Buxton Hospital on November the 14th from

9:30 A.M. to 4:30 P.M. Financial report is not complete at this time.

CAMMIE DICK (MRS. MURRAY)
Reporter

RICHMOND

The Woman's Auxiliary to the Richmond Academy of Medicine held its annual Public Relations luncheon on Friday, November 16, at the Academy Building. Presidents of various other women's organizations of Richmond were invited and 25 attended. Other guests were: Mrs. J. M. Booker, State Public Relations Chairman, Mr. Richard Nash, Assistant to the Director of Public Relations for the Medical Society of Virginia, Mrs. Bette Orsini from the Richmond News Leader, and Mrs. Edna Barnett, Club Editor for the Richmond Times Dispatch. Sixty-five of our own members were present.

Dr. Vernon W. Lippard, Dean of the Department of Medicine of the University of Virginia, was speaker at the meeting, discussing health needs in the State. "The production of good physicians is the most important factor in maintaining good health", Dr. Lippard said. "They can be produced only through good schools with good facilities. No health program can be better than the people who run it."

Dr. Lippard reported the legislative program for 1952 of the Virginia Council on Health and Medical Care. The program calls for expansion of services in the health fields of tuberculosis, scholarships, mental health, cancer, public health, extension service, and medical schools. He said: "Only through the adequate support of citizens of the State can we continue our health progress."

Mrs. Thos. W. Wheeldon was program chairman and the luncheon hostesses were: Mrs. John Archer, chairman; Mrs. W. F. Cavedo, Mrs. William Spencer, Mrs. John Stevens and Mrs. Robert Trice.

LUCIA K. EMLAW (MRS. MAYNARD R.)
President-Elect

SOUTHWESTERN VIRGINIA

The 1951-1952 Officers of the Auxiliary are:
 Society's Committee—Dr. A. P. Jones, Roanoke, Dr. James Chitwood, Pulaski, and Dr. James Suter, Abingdon.

President—Mrs. W. C. Caudill, Pearisburg
President-Elect—Mrs. James King, Radford

Vice-President—Mrs. C. C. Hatfield, North Holston

Secretary—Mrs. J. Glenn Cox, Hillsville

Treasurer—Mrs. A. B. Graybeal, Marion

Parliamentarian—Mrs. C. F. Manges, Blacksburg

Historian—Mrs. Giles Gilmer, Lebanon

Corresponding Secretary—Mrs. E. L. Bagby, Pearisburg

The goals for the year are increased membership and nurse recruitment.

NORTHERN NECK

Dr. J. Powell Williams, of Richmond, was the guest speaker at the Fall meeting of this Auxiliary, which met at The Tides Inn, on Thursday, October 25th. Dr. Williams used as his subject, "Medical Emergency in Civilian Defense".

The President, Mrs. J. Motley Booker, of Lottsburg, was pleased to report that this Auxiliary was the only one in the State whose membership was paid up 100% and in good standing.

The Officers for the coming year were elected as follows: President, Mrs. J. Motley Booker, Lottsburg; President-elect, Mrs. L. S. Liggan, Irvington; Vice-President, Mrs. E. T. Ames, Montross; Secretary, Mrs. P. C. Pearson, Warsaw; Treasurer, Mrs. M. B. Lamberth, Jr., Kilmarnock; Corresponding Secretary, Mrs. R. E. Booker, Lottsburg; Historian, Mrs. C. Y. Griffith, Machodoc; and Parliamentarian, Mrs. M. H. Harris, West Point. The following committee chairmen were named: Publicity, Mrs. M. B. Lamberth, Kilmarnock; Today's Health, Mrs. W. H. Matthews, Irvington; Bulletin, Mrs. A. B. Gravatt, Jr., Kilmarnock; and Cancer Control, Mrs. R. T. Arnest, Hague.

Following the business meeting, the ladies were guests of the doctors for the annual banquet.

NORTHAMPTON-ACCOMACK

The Auxiliary met at the home of Mrs. J. L. DeCormis on October 16. Following a dessert course, there was a business meeting which included reports of committee chairmen, summarizing the year's work. Mrs. DeCormis gave a report on the recent meeting at Virginia Beach, at which talks were given by Dr. C. L. Harrell, President of the State Society, Mrs. C. M. McCoy, State Auxiliary President, and Mrs. Walquist, National Auxiliary President. After these reports, the installation of new officers took place, Mrs. W. T. Green presenting the gavel of office to

Mrs. John Wise Kellam, the incoming president.

Other officers and Committee Chairmen for 1952 are:

President Elect—Mrs. John R. Hamilton, Nassawadox

Secretary—Mrs. W. Carey Henderson, Nassawadox

Treasurer—Mrs. John Rodgers Mapp, Nassawadox

Today's Health—Mrs. John R. Hamilton, Nassawadox

Historian—Mrs. J. Walker Jackson, Shadyside

Legislative—Mrs. J. L. DeCormis, Accomac

Public Relations—Mrs. Holland Trower, Eastville

Leigh-Hodges-Wright Memorial—Mrs. Mihalyka, Eastville

Jane Todd Crawford Memorial—Mrs. Harry L. Denoon, Jr., Nassawadox

Cancer Control—Mrs. Sheppard K. Ames, Cape Charles

Bulletin—Mrs. J. Fred Edmonds, Accomack

BOOK ANNOUNCEMENTS

Practical Clinical Psychiatry. By EDWARD A. STRECKER, A.B., A.M., Sc.D., Litt.D., LL.D., M.D., Professor of Psychiatry, School of Medicine, University of Pennsylvania; FRANKLIN G. EBAUGH, A.B., M.D., Professor of Psychiatry, University of Colorado, School of Medicine; Director, Colorado Psychiatric Hospital; JACK R. EWALT, M.D., Professor of Neuro-Psychiatry; Administrator of Hospitals, University of Texas Medical Branch, Galveston. Section on Psychopathologic Problems of Childhood by LEO KANNER, M.D., Associate Professor of Psychiatry, Johns Hopkins University School of Medicine. Seventh Edition. The Blakiston Company, New York, Philadelphia and Toronto. 1951. 506 pages, 35 figures, 14 tables. Cloth. Price \$7.00.

Review of Physiological Chemistry. By HAROLD A. HARPER, Ph.D., Professor of Biology (Biochemistry), University of San Francisco; Lecturer in Surgery, University of California School of Medicine; etc. Third Edition. University Medical Publishers, Palo Alto, Calif. 1951. 260 pages. Price \$3.50.

This is a concise but comprehensive presentation of some of the fundamentals of physiological chemistry. It should prove helpful to those wishing to review the subject in preparation for state, national or specialty boards, or to the graduate or clinician who may wish an abbreviated but up-to-date review of this rapidly advancing field. Students may find it a useful companion to, but not a substitute for, their textbooks.

L.D.A.

THE MEDICAL SOCIETY OF VIRGINIA

Headquarters Building

THE headquarters building of The Society is a handsome, well-constructed, thirteen room house which has always been kept in good condition. Its appearance belies its stated age of forty years. The first floor is sufficiently large to permit the joint activities of The Society and the VIRGINIA MEDICAL MONTHLY being carried out on one level.

In adapting the building to its new needs, fortunately no structural changes above the basement were necessary. The chief changes involved painting, papering, sanding floors, new electric fixtures, applying asphalt tile to several rooms, installing cabinets, repairing and purchasing draperies, obtaining Venetian blinds and converting the back yard into a parking space with asphalt paving and a new fence. Furnishings for the reception room and rugs for this room and the hall were purchased. The original draperies and an Empire mirror over the mantle in the reception room were purchased with the house.

The Woman's Auxiliary of The Medical Society of Virginia generously presented the inlaid console table which was greatly needed in the front hall.

The heating plant was antiquated, an old furnace and an automatic stocker furnishing uncertain warmth. In view of this a new oil burning furnace was installed this summer. Since storage space for the numerous records of The Society had never been adequate, a large segment of the basement was partitioned off with suitable shelf space. These major changes give the Society an efficient and distinctive headquarters.

The front room on the second floor has been rented to the Virginia Academy of General Practice, effective January 1, 1952. It is anticipated that the other rooms on the second floor and a part of the third floor will be rented to suitable tenants.

It is hoped that the members of The Medical Society of Virginia will visit their new headquarters at their first opportunity and avail themselves of the facilities it affords. Visitors will find the parking space in the rear of the building of aid in this crowded section of Richmond.

Entrance Hall



1105 West Franklin Street

Reception Room





Executive Secretary's Office

The VIRGINIA MEDICAL MONTHLY
and Membership Records



Public Relations Office

MEDICAL SOCIETY OF VIRGINIA

Public Relations

A.M.A. Public Relations Conference

The 4th Annual Medical Public Relations Conference of the American Medical Association was held in Los Angeles, December 2 and 3, and was generally acclaimed the best yet.

Keynoting the Conference was an address by Dr. Louis H. Bauer, President-Elect of the American Medical Association, who spoke on "Working Together in '52". Stressing the need for action, Dr. Bauer pointed out that while Socialism has never worked anywhere, we continue to stray further and further from our democratic heritage. It was brought out that in the last national election, only 47% of those eligible actually voted.

The Sunday (December 2) afternoon session was featured by a panel discussion of "What Do People Think". Ernest Dichter, Ph.D., New York, stated that many patients feel like outsiders and complain that the physician never takes them into his confidence.

Edgar A. Schuler, Ph.D., Wayne University, found that in the Toledo area the public was overwhelming in favor of emergency and night call service. He found that the greatest sources of concern were fees, shortage of hospital beds and the possible shortage of doctors.

Larry Rember, Public Relations Field Director of the A.M.A., reported on a survey conducted in Decatur, Illinois, and mentioned hospital bills as the really big complaint. The average citizen also complained about the lack of community interest on the part of the physician. Mr. Rember pointed out that very few people had heard or knew very much about the Macon County Medical Society. The majority of those interviewed had heard of the American Medical Association but knew little about its activities.

The first panel discussion heard on Monday, December 3, was concerned with "The Cost of Sickness". Dr. Harlan English, Danville, Illinois, thought the wise physician would do well to inform the patient of fees beforehand and ask for any comments. He strongly recommended the A.M.A. plaque "To All My Patients" and asked for consideration

and understanding. Dr. English felt that many of our present-day troubles can be traced to the day religion and faith began to be excluded from our government many years ago, bringing about a moral collapse.

Dr. Cyrus W. Anderson, Denver, suggested that physicians explain certain routine measures and especially repeating costs, such as blood tests, etc. He emphasized that many patients do not understand why there is a post operative examination of tissue, etc.

An interesting paper entitled "Time is Money for Your Patients, Too" was prepared by Dr. Stanley R. Truman, Ventura, California. Dr. Truman believed the idea of "first come, first served", was obsolete, and that good scheduling is all important. He emphasized that secretaries and nurses can be of great help in this connection.

"The PR Factor in Collecting Bills" was the subject covered by the next panel. Mr. Stanley R. Mauck, Columbus, Ohio, said that billing delays, misunderstandings, and bills sent to wrong parties were principal causes of unpaid bills. 63% of these unpaid bills can be traced to poor PR and business methods in the physician's office.

Dr. Joseph F. Donovan, San Jose, California, told of the free medical care for any not able to pay as advertised by the Alameda County Medical Society. While a surprisingly low number of inquiries were received, public relations have become very good.

A luncheon speech by Dr. Lewis A. Alesen, Los Angeles, proved to be one of the highlights of the Conference. Dr. Alesen attacked those who would lead us into Socialism and called for clear thinking and positive action by the medical profession with regard to the present-day political scene.

"Joining Forces with Other Groups" was the subject treated by the first panel on the afternoon program. Dr. Ernest B. Howard, Assistant Secretary of the American Medical Association, stressed the need of contact and liaison with such organizations as the American Legion, etc. They must be told who we are, what we do, and what we believe.

The value of the physician participating in com-

munity affairs was cited by Dr. George Schwartz, New York, in an interesting account of conditions in the Bronx.

The final panel dealt at length on the question "Where Do We Go from Here?". Mr. Leo Brown, Director of Public Relations, A.M.A., resolved to work closely with organizations whose aims are similar to our own.

Those physicians who give freely of their time and money in the interest of PR were lauded by Dr. Joseph E. Mott, New Jersey. He also advocated closer cooperation with Blue Cross and Blue Shield, and recommended the immediate establishment of speakers' bureaus on the local level.

Dr. Charles R. Henry, Little Rock, Arkansas, closed the Conference with a plea that physicians discard their apparent disinterest and aloofness and go all out to insure the success of the local society, the state society, and the American Medical Association.

R.I.H.

Department of Clinical and Medical Education

A meeting of the Department of Clinical and Medical Education, Dr. C. Lydon Harrell presiding, was held in Richmond on November 15, 1951, at the Society Headquarters. Present were Dr. Harrell, Dr. Joseph W. Chinn, Dr. Mary Elizabeth Johnston, Dr. Kinloch Nelson, Dr. Mack I. Shanholtz and Mr. George Zehmer.

Dr. Harrell opened the meeting by reviewing the financial situation, and indicated that additional funds were needed if the work of the Committee was to be continued. The matter of an additional appropriation was to be placed on the agenda of the Council meeting in December.

A brief history of the post-graduate program in Virginia was given by Dr. Nelson, bringing all members of the Committee up to date in Committee activities.

The question of financing programs over the state was discussed and several suggestions were made for a better and more equitable method of promotion, calling for close cooperation between the local medical society, The Medical Society of Virginia, and the interested association (Heart, Cancer, Polio, etc.).

Mr. George Zehmer reported the progress of the Virginia Cancer Society, and stated that \$40,000.00 was being made available to sponsor a state-wide symposium, dealing with treatment and detection of cancer. This program would be sponsored and administered by The Medical Society of Virginia if the Department of Clinical and Medical Education accepted the responsibility.

Mr. Zehmer went on to report that the services of Dr. Spencer, United States Public Health Service, had been secured in connection with this program, and he would be available by March 1.

The need of a Committee secretary was discussed, and Dr. Nelson was unanimously elected.

Also brought forth was the need for a central control point, and it was the opinion of the Committee that as much of the administration as possible should be handled by the executive office of The Medical Society of Virginia.

The Clinicopathological Reports as published in the *Virginia Medical Monthly* were discussed, and the consensus was that they are definitely a part of post-graduate education and should be continued. However, the Committee did not feel obligated to pay for additional cuts used in connection with the reports, and recommended that the expense be borne by the Society.

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,

*Commissioner, Department of Mental Hygiene and Hospitals.***The Private Psychiatric Hospital***

In the United States the development of the private psychiatric hospital has about paralleled the growth of the public hospital. Dr. Nehemiah Cutter of Pepperell, Massachusetts, was one of the outstanding pioneers in private institutional work. In 1834 he built a large building and "received patients into his family". It is obvious that institutions of this type were looked upon with a good deal of suspicion, for in Dr. Cutter's obituary notice it is recorded that "he maintained the reputation of his institution unimpaired in spite of the prejudice against private asylums". More private institutions evolved by the conversion of a private home or estate into a private sanatorium. This is particularly true in Virginia and the Carolinas. Another natural development of course was that private sanatoria sprang up in the vicinity of urban areas and served people of property who wanted private care. Then, too, those who sought private care felt that they were avoiding some of the stigma, unfortunately, attached to mental ills. In the early days there were no regulations of private hospitals such as existed in the state system; hence, there was danger of abuse in this type of private psychiatric practice. In recent years this danger has been overcome largely in most states, including Virginia, by a system of inspection and license, which affords protection for both the patient and the institution. It can be categorically stated that no institution, public or private, is any better than the staff that operates it.

Of the 1,217,154 patients comprising the average daily hospital census in the United States (1948 figures), 664,399, or 54%, were patients in nervous and mental institutions. Approximately 97.7% of this 664,399 patients were in public hospitals, about 2.3% were in private psychiatric hospitals. This figure, 2.3% (nation wide) is relatively true in Virginia and the Carolinas. In Virginia there are more than 12,000 patients in the State hospitals as against approximately 350 in private hospitals or sanatoria.

About 50% of these 350 patients are from outside the State. This leaves approximately 175 patients who are natives of Virginia. In other words, slightly over 1% of more than 12,000 mentally ill in Virginia are treated in private psychiatric hospitals. It seems obvious that the major role of the private hospital is to furnish care and treatment for one percent of the psychiatric population who wish and can afford private care. Another major role of the private hospital is to afford better care. This, fundamentally, is what the patient, or the family of the patient, is paying for.

When mental illness occurs in a family one of the first considerations is hospitalization—public or private. The economic status of the patient or family should determine whether or not public or private hospitalization should be sought, and the family physician should advise accordingly. Not infrequently the remark is heard that a private hospital will treat you until your money gives out and then transfer you to a State hospital. It is rare in the writer's experience that many go far beyond their means in private hospitalization; in fact, most operators of private hospitals are the first to advise public hospitalization and discourage the idea of taking on obligations beyond responsibility. More frequently we see patients transferred to public hospitals who can well afford private care. It should be clearly understood that no controversy exists between the public and private hospitals. Both have complemented each other in helping to raise the standard for better hospital care and treatment. The pioneers of private hospitals in Virginia have gained national recognition for their ability and achievements in the psychiatric field. The fact that many out-of-state patients seek hospitalization in Virginia's private hospitals lends emphasis to the State's progress in the psychiatric work, in which the public and private hospitals mutually share. There is no basic difference in the principles of care and treatment of a patient in a public or private hospital. The difference lies only in the ratio of hospital personnel to patients. This, of course, is what the patient, or

*This article prepared by Dr. Rex Blankinship, Medical Director, The Westbrook Sanatorium, Richmond, Va.

family of the patient, wants and pays for. The quality of service rendered by any hospital is determined by the caliber of the staff that operates it.

Do State and Federal hospital facilities threaten the existence of the private psychiatric hospital? What has become of the private tubercular sanatoria? During wartime accelerated industrial production and inflationary periods, it seems unlikely that private hospitals will suffer. In case of an economic depression the private hospitals would certainly have a tough pull.

Since the private psychiatric hospitals provide care and treatment for such a small percentage of the mentally ill, their independence should be encouraged. There is no good reason for the taxpayer to support,

in a public hospital, one who can afford private care. The contrary is ridiculous unless we embrace the idea that we pay taxes at a high rate and therefore the State should take care of us.

In conclusion, it is believed that the private psychiatric hospital has a place in the community. We well recognize the fact that it would be impossible for the vast majority of people in the State to receive private psychiatric care, even if facilities for such care could be made available to them. The private psychiatric hospital should be continued and available to those who are able to afford such care. We must, however, as citizens and tax payers support the State institutions in order that they may continue to give the best of care and attention to the mentally ill who are unable to obtain private care.

Flora Eponym

GAYLUSSACIA

JOSEPH LOUIS GAY-LUSSAC (1778-1850)

Gay-Lussac, the distinguished French chemist and physicist, was born at St. Léonard, in the department of Haute Vienne. He was successively professor of chemistry at the École Polytechnique, professor of physics at the Sorbonne, and professor of chemistry at the Jardin des Plantes. In 1806 he was made an academician and in 1831 he was elected to represent Haute Vienne in the chamber of deputies. He was particularly interested in the chemistry and physics of gases and formulated the law of the heath family is a valuable ground cover in shaded, peaty places. *G.brachycera* gases at high altitudes.

Gaylussacia, better known as huckleberry or whortleberry, a fruitbearing species of the heath family is a valuable ground cover in shaded, peaty places. *G.brachycera* or juniper berry has small blue fruit. It is frequently confused with the blueberry, a species of *Vaccinium*.

EDITORIALS

A New Year's Plea for Understandable Medical Writing

WE HEREWITH make our New Year's protest against abbreviations in medical papers. We take it for granted that when a doctor, even if he be a Ph.D., writes a paper he wishes it to be read and understood, although it seems at times to be a form of exhibitionism on the principle that the less understandable the paper, the smarter the author. We do not believe that such is usually the case. Most authors write because they have something to say and if that is the case they should use every effort to be understood.

One of the commonest causes of incomprehensibility is the substitution of abbreviations for words. The laboratory worker has a group of letters for the various procedures and tests he uses; the clinician does the same for various syndromes; the endocrinologist speaks of new hormones by their initials instead of their names; the psychiatrist adds confusion with an entirely different set; and the military man combines with all the above a lot of camp jargon. This may be all right in conversation, where you can interrupt the speaker when you find he is getting beyond your depth, but for a reader of a medical journal it becomes hopeless.

Recently we came across an article that contained twelve new alphabetical abbreviations that could not be found in the latest medical dictionary. In most cases we could guess at the meaning, but in several we were entirely at a loss to know what the author had in mind. Granted that everyone knows by now what ACTH means, for example, we believe "adrenocorticotrophic hormone" looks better in print and carries with it a clearer concept than "ACTH". How many readers know what LAP or STH mean? Presumably the author knows and it would take so little of his time to write it out, and it would add so much to the readers' enjoyment and understanding if he would do so.

The Twelve Commandments

THE Great Physician's only textbook was the ten commandments. He added two others. These twelve commandments are the finest example of precision prose extant. Also, they embody all the fundamentals of law and ethics. Grave them on your heart and you become a better doctor; a better citizen; and a better writer. If people would only live by them what a fine place this world would be!

The American Way

IN THE past year we have heard a great deal about the American Way. Just exactly what the term means probably varies with the person using the term. The Constitution guarantees to each of us life, liberty, and the pursuit of happiness. To most of us this means individual initiative, cooperation, assembly lines, mass production, and success. Along with this goes a restless, generous spirit, boastfulness, egotism, and sentimentalism. Work and worship formerly were important factors of the picture, but these have become outmoded. The welfare of the individual is the central idea of the American Way with no more State control than is necessary to safeguard his pursuit of happiness. Over emphasis is put on material things; automobiles, television, deep freezers, etc., and spiritual values are ignored. Political orators speak glibly about the freedoms which our ancestors came to achieve and for which they fought and died and which it is our duty to maintain. These varied considerably with the

thirteen original colonies. The one thing they had in common was the hatred of excessive taxes. This, you may recall, was the cause of the American Revolution.

We have become a luxury loving people, placing creature comforts above spiritual values. We have neglected the Church. Once a year we celebrate Thanksgiving. The rest of the year we seem unmindful of our blessings. The federal government has taken full advantage of our neglect of the Church and has embarked on a huge, expensive, politically controlled social program, a work that properly belongs to the various churches. The strange thing about the whole matter is that a great many churchmen seem to be in favor of the government's usurping their privileges.

The American Medical Association's Public Relations Plaque

MOST of the complaints the public has expressed of the medical service group themselves, on analysis, are about (a) its lack of availability and (b) its cost. Admittedly, the service in hospitals is superb, but in domiciliary practice it is becoming more and more difficult to get attention on holidays and at night. In an attempt to correct this condition, many local medical societies have appointed committees to see that certain officially delegated physicians are available for emergencies and calls at odd hours. In addition, the medical societies have appointed grievance committees to iron out misunderstandings that might upset good doctor-patient relations.

Rarely is there complaint of the service performed—at least until the bill is rendered. Public relations experts tell us that most of the complaints of the cost of medical and surgical care can be avoided if the doctor and the patient discuss the charges beforehand. In most places this is seldom done and, when it is done, the implication is that the medical man is making an unusual charge, and one that is too large. Furthermore, beforehand has not been considered a good time for such discussion for then the patient is sick and not in a mood to talk business. The doctor hesitates to broach the subject, for fear the patient will think that the fee, and not the welfare of the patient, is his greater interest, and so the subject is neglected. To encourage the patient to discuss the cost of non-emergency treatment before the service is rendered rather than afterwards, the Public Relations Bureau of the American Medical Association has prepared an attractive plaque to be exhibited in the doctor's office, advising his patients that the doctor welcomes such discussion.

Cat Scratch Fever

FROM Paris comes the news of a new disease, Cat Scratch Fever. It is a self limited disease, characterized by fever, a maculo-vesicular local lesion, and swelling of the lymph nodes, often with suppuration. Sometimes the fever is accompanied by chills. Laboratory tests are entirely negative. A skin-test antigen has been developed to which the patients react; the cats, however, do not react to this antigen. In fact, the cats that caused the disease do not seem to be affected in any way whatsoever. It is surmised that the cat carries the causative agent, whatever it may be, mechanically on its claws. A case has appeared in Boston and has been reported in the *New England Journal of Medicine* (April 12, 1951) by Greer and Keefer.

In this connection comes the report from Texas (J.A.M.A. 147:949, 1951) of another curious disease, Aseptic Meningitis due to *Leptospira pomona*, a disease that comes from association with hogs. This patient had fever, headache, chills, and generalized aching. The headache, dizziness, and nausea continued after the fever subsided. Spinal fluid was cloudy with 980 cells, 86 percent of which were lymphocytes.

The authors, in their summary, predict, "As more agglutination tests for *Lept. pomona* are done in cases of iridocyclitis, aseptic meningitis, and influenza-like diseases, this pathogen will probably be found to be more frequent and widespread than heretofore believed." It would seem that *Homo Sapiens* should be more circumspect as to the company he keeps.

Navy Commander Herbert S. Hurlbut, Army Captain Robert M. Altman and Lieut. Carlyle Nibley, Jr. report that the Korean body louse is highly resistant to DDT.

SOCIETY PROCEEDINGS

The Williamsburg-James City County Medical Society

Held its Fall meeting October 26, after a dinner at the King and Kay Tea Shop in Williamsburg. The meeting was called to order by the President, Dr. B. I. Bell, who announced the resignation of Dr. Gordon Keppel as Secretary-Treasurer due to illness. Dr. Gordon's resignation was accepted with regret and Dr. Frances E. Wood was elected in Dr. Gordon's place.

Dr. Hugh G. Stokes, Chairman, reported for the Committee on Diabetes Detection Week. The committee had arranged for publicity in the paper and had made arrangements with the Superintendents of the schools for each child to take home a letter urging parents to have a urine specimen examined by the family doctor. Arrangements were made with President Chandler for the College of William and Mary students and faculty to be tested by the College infirmary, and plans were made for Eastern State Hospital to run their own tests. All doctors in the community were contacted and agreed to cooperate.

Dr. Granville L. Jones and Dr. Joseph E. Barrett, Delegates to the Medical Society of Virginia, gave their report on the meeting.

Dr. Andrew Davis and Dr. R. H. Hicks, dentist, both of Eastern State Hospital, were introduced to the Society by Dr. Jones, and were elected to Associate Membership until permanent licensure can be obtained.

FRANCES E. WOOD, M.D.,
Secretary

Wise County Medical Society.

Following a steak dinner at Hotel Norton on November 14, Dr. Lloyd L. Thompson, Jr., of Rich-

lands, gave an excellent lecture on Neuro-alimentary Glycemia.

He was followed by Dr. James P. Williams, owner of two large hospitals in southwest Virginia, who spoke on Hospitalization in that section of the State. He reviewed the organization, development and pay plans from the old days of all private pay, through mine contract, then hospitalization contracts sold through a central agency for leading hospitals in the area. This served a fine purpose until administrative costs increased so greatly that hospitals had to abandon these contracts. Finally came outside insurance contracts, the Blue Cross and Blue Shield, and the United Mine Workers Fund, paying for the miners and their families. Most of the twenty-one doctors present had something to say or to ask about this live subject. The Hill-Burton aid in building two local hospitals was also discussed. Altogether, this was a most enthusiastic meeting.

In addition to these talks, there was a fine Wyeth movie of the highlights of the last National convention of the Academy of General Practice.

Delegate and alternate to the next meeting of the State Society were elected and it was voted to hold the next meeting at Norton on February 13.

Roanoke Academy of Medicine.

The December meeting of the Academy was held on the third, in the ball room of Hotel Patrick Henry. The guest speakers on this occasion were Dr. Stanley E. Bradley of Columbia University College of Physicians and Surgeons of New York City, who spoke on "Renal Insufficiency"; Dr. J. D. Meyers of Duke University, Durham, N. C., whose subject was "C. P. C."

Dr. Ira H. Hurt and Dr. Philip C. Trout are president and secretary of the Academy.

NEWS

The 1952 Meeting, The Medical Society of Virginia.

The Annual Meeting of The Medical Society of Virginia will be held in Richmond at the Jefferson Hotel, September 28-October 1, 1952.

A blanket reservation is being maintained for officers, guests, and delegates until February 1, after which time reservations for the general membership will be confirmed in chronological order.

Four hundred rooms will also be available at the John Marshall, Richmond, William Byrd and King Carter Hotels.

Southern Medical Association.

The meeting in Dallas in November, under the presidency of Dr. Curtice Rosser of that city, was splendid in very detail and had a registered attendance of 2,053 physicians, in addition to medical students, technical exhibitors and ladies, though there are always a number who fail to record attendance. Near the close of the meeting, Dr. R. J. Wilkinson of Huntington, W. Va., succeeded to the presidency for the coming year. Those elected to serve with him are: President-elect, Dr. Walter C. Jones, Miami; vice-presidents, Dr. Alphonse McMahon of St. Louis, and Dr. Frank A. Sellecman of Dallas. Mr. C. P. Loranz and Dr. M. Y. Dabney, both of Birmingham, continue as Secretary-Manager and as Editor of Southern Medical Journal, respectively. The next meeting is to be in Miami, November 10-13, 1952.

Virginia doctors who hold positions in the Southern and its various sections are: Dr. Waverly R. Payne, Newport News, member of the Council representing Virginia; Dr. George S. Fultz, Jr., Richmond, secretary, Section on Neurology and Psychiatry; and Dr. John B. Truslow, Richmond, secretary, Section on Medical Education and Hospital Training; Dr. A. Ray Dawson, Richmond, chairman Section on Physical Medicine and Rehabilitation; Dr. H. Hudnall Ware and Dr. W. C. Winn, both of Richmond, vice-chairmen, Sections on Gynecology and on Obstetrics respectively.

The Virginia Society of Anesthesiologists

Met at Virginia Beach on October the 8th. At this time, Dr. Albert V. Crosby of Norfolk stressed "The Role of the Anesthesiologist in the Small Hos-

pital" and directed a discussion concerning the "Value and Advisability of Maintaining a Post-Anesthesia Recovery Room".

The officers of the Society who were elected at the annual meeting last March are: President, Dr. John Rosenthal, Norfolk; vice-president, Dr. Robert Morrison, Lynchburg; and secretary-treasurer, Dr. Harold F. Chase, Charlottesville. Dr. Rosenthal recently attended the annual meeting of the American Society of Anesthesiologists where he represented the Virginia Society.

The Society will hold its annual business meeting in Lynchburg, on Saturday, March 1.

Neuropsychiatric Society of Virginia.

The Fall meeting of this Society was held in the Richmond Academy of Medicine Building, Richmond, November 14, under the presidency of Dr. R. C. Longan, Jr., of this city. Dr. Walter Freeman of Washington, D. C., guest, spoke on "The Place of Psycho-Surgery in the Therapeutic Program of the State Hospital".

The next meeting will be held in the Spring at the University of Virginia, Charlottesville, in conjunction with the Regional meeting of the American Psychiatric Association.

Blood Needed for Servicemen in Korea.

Blood, urgently needed to save the lives of wounded servicemen in Korea, is being collected regularly in Richmond by the Red Cross.

A Red Cross Bloodmobile Unit will visit Richmond three days each in January, February and March. For each day's visit, 220 donors are needed. The success of the Blood Program here depends upon the community. Human beings are the only resource for this life-giving fluid so essential to saving our wounded.

Blood collected in Richmond is the city's share of the 300,000 pints of blood the Department of Defense estimates it needs each month to meet current military demands. Military surgeons in Korea have found that the average hospitalized casualty requires nine pints of blood in order to survive. This means that nine persons must give one pint of blood each in order to save the life of a hospitalized combat man in Korea.

Individuals in or near Richmond who wish to

donate a pint of blood are asked to telephone the Red Cross, 3-7451, for an appointment with the Bloodmobile Unit. If the Unit is unable to take an individual's donation this month, Red Cross will schedule the donor for a future visit.

Donors must be between 18 and 59 years of age and weigh at least 110 pounds. Women who are pregnant or who have been pregnant within the past year are not eligible. The Red Cross requires written permission from the parents or guardian of donors under 21 years of age who are not in Military Service and who are not married.

A visit to the Bloodmobile Unit requires from 45 minutes to one hour. After registering, the donor receives a medical examination including a hemoglobin test, pulse, respiration, blood pressure and 35 questions asked by the physician in attendance. With the physician's permission, the donor gives a pint of his blood. Afterwards he is served refreshments in the canteen and receives a pin in the form of a drop of blood as a symbol of his gift to the Armed Forces.

Dr. Frances A. Hellebrandt

Of the Medical College of Virginia has assumed duties as professor and head of the Department of Physical Medicine and Rehabilitation at the University of Illinois College of Medicine.

She also is serving as chief of Physical Medicine and Rehabilitation at the University of Illinois Research and Educational Hospitals. She has succeeded Dr. H. Worley Kendell, who has resigned as head of the department to accept a position as medical director of the Institute of Physical Medicine Rehabilitation at Peoria.

Dr. Hellebrandt formerly held the rank of professor of physical medicine and director of the Baruch Center of Physical Medicine and Rehabilitation at the Medical College of Virginia. She had been associated with the Richmond, Va., institution since 1944.

Watts Hospital Medical and Surgical Symposium.

For the ninth year, this Symposium will be held in Durham, North Carolina, and will be at the Carolina Theater on Wednesday and Thursday, February 13 and 14. This promises to be an excellent program and will include two days of papers, a clinico-pathological conference, and a panel discussion on En-

docrinology. An outstanding group of speakers will include: Drs. Shields Warren, George Van S. Smith and Hugh F. Hare of Boston, Mass.; Dr. Albert Faulconer, Jr., Rochester, Minn.; Dr. Frank E. Adair of New York City; Dr. E. C. Hamblen, Durham, N. C.; Dr. Edward C. Reifenshtein, Jr., Oklahoma City; Dr. E. Perry McCullagh, Cleveland; and Drs. Nathan A. Womack and Charles H. Burnett of Chapel Hill, N.C.

The American Board of Obstetrics and Gynecology

Announces the election of Dr. John L. Parks, of Washington, D. C., as a member and Director of the Board. Dr. Parks succeeds Dr. Joseph L. Baer who has been vice-president of the Board for over twenty years and who has resigned.

Award for Outstanding Research in the Field of Infertility.

The American Society for the Study of Sterility announces the opening of the 1952 contest for the most outstanding contribution to the subject of infertility and sterility. The winner will receive a cash award of one thousand dollars, and the essay will appear on the program of the 1952 meeting of the Society. Essays submitted in this competition must be received not later than March 1, 1952. For full particulars concerning requirements of this competition, address The American Society for the Study of Sterility, 20 Magnolia Terrace, Springfield, Massachusetts.

Dr. Claude Marshall Lee, Sr.

Has been appointed medical member of the United States Civil Service Examiners, The Emergency Center and Ft. Belvoir, Ft. Belvoir, Va.

American Student Health Association.

The meeting of the Mid-Atlantic Section of this Association, composed of college physicians from Maryland, District of Columbia and Virginia, was held in Richmond, December 7, twenty-five physicians attending. Dr. Andrew D. Hart of the University of Virginia, Charlottesville, was elected president, Dr. Cullen Pitt of University of Richmond vice-president, and Dr. Frank R. Smith of Johns Hopkins University, Baltimore, secretary-treasurer.

Diabetes,

The Journal of the American Diabetes Association, is a new Journal, which will appear bimonthly be-

ginning with the January-February 1952 issue, and will be devoted to clinical and research reports on diabetes and related aspects of medicine. It will be the Association's official scientific and organizational publication, replacing its annual PROCEEDINGS and its quarterly DIABETES ABSTRACTS, both of which have been published for the past ten years.

DIABETES will be edited by Frank N. Allen, M.D., of the Lahey Clinic, Boston, Mass., first vice-president of the American Diabetes Association. Doctor Allan will be advised and assisted by a distinguished Editorial Board under the chairmanship of Charles H. Best, M.D., of the University of Toronto, co-discoverer, with the late Sir Frederick Banting, of insulin and its use in the control of diabetes.

According to Doctor Best, "The major purpose of DIABETES will be to give the medical profession and particularly the practicing physician, information which will help him to improve the treatment of diabetes and allied disorders.

The subscription rate for the Journal will be \$9.00 a year for non-members of the Association; members will receive it without charge. Correspondence concerning both editorial and business matters and manuscripts of interest to the Editors, should be addressed to the Editorial Offices, DIABETES, American Diabetes Association, Inc., 11 West 42nd Street, New York 18, N.Y.

The Atlantic Coast Line Railroad Surgeons' Association

Will hold its 48th annual meeting at the Fort Sumter Hotel, Charleston, South Carolina, January 24-25. Visiting physicians are welcome and there is no registration fee. Among the speakers will be: Dr. Joseph S. Stewart, Miami, President, Southeastern Surgical Congress; Dr. Sam Marshall, Lahey Clinic; Dr. Elam C. Toone, Medical College of Virginia; Dr. J. S. Lyerly, Neuro-Surgeon, Jacksonville; Dr. John M. Harry, Chief of Surgical Staff Highsmith Hospital, Fayetteville, N. C.

It is recommended that reservations be made directly with the Hotel.

The Seaboard Medical Association of Virginia and North Carolina

Held its fifty-sixth annual meeting at the Cavalier, Virginia Beach, December 4-6, under the presidency of Dr. R. Bryan Grinnan, Jr., of Norfolk. An interesting program, scientifically and socially, had

been arranged and the meeting was pleasant and instructive as usual. Dr. J. G. Ramsey of Washington, N. C., was unanimously elected president, and the vice-presidents are: Dr. J. M. Habel, Jr., Suffolk; Dr. Thomas P. Brinn, Hartford, N. C.; Dr. B. L. Parrish, Norfolk; and Dr. Edwin A. Rasberry, Jr., Wilson, N. C. Dr. L. Everett Sawyer of Elizabeth City, N. C., is secretary-treasurer. The Association voted to hold its 1952 meeting as guests of the Beaufort County Medical Society, the meeting to be held in either Washington or Elizabeth City, North Carolina.

Dr. I. S. Zfass,

Richmond, attended the Fourth International Congress of Mental Health held in Mexico City, December 11-19.

News from the Medical College of Virginia.

The eighteenth annual Clinical Session, post-graduate section in Ophthalmology and Otolaryngology, was held at the College, November 27-30. The series of lectures was sponsored by the Virginia Society of Ophthalmology and Otolaryngology.

Gifts and grants to the institution announced in November totaled \$93,392. Grants were received from the United States Army, United States Public Health Service, American Foundation for Pharmaceutical Education, and the American Cancer Society.

A joint paper by Dr. E. I. Evans, Dr. G. J. Purnell, Jr., Dr. P. W. Robinett, Dr. Alastair Batchelor, and Dr. Mary Martin on "Fluid and Electrolyte Requirements in Severe Burns" was presented at the Southern Surgical Association at Hot Springs.

The regional meeting of the American College of Pathologists and the state meeting of the Virginia Society of Pathology and Laboratory Medicine were held at the Medical College, November 30 and December 1. A seminar on neoplasms was conducted by Dr. Frank Foote, Jr., of the Memorial Hospital Center for the Study of Cancer and Allied Diseases, and Dr. William Sunderman conducted a meeting for the evaluation of clinical pathology procedures.

Recent faculty promotions included Dr. Thomas Walker from assistant professor to associate professor of anesthesiology, and Mr. Sidney Kaye, from assistant professor to associate professor of legal medicine.

A State Medical Journal Conference

Was held in Chicago, November 12 and 13, at the American Medical Association Building. This was attended by editors, business managers, and others interested in editorial and mechanical make-up of journals. The various panels and papers discussed "The Job of an Editor", "Literary Aspects of Medical Journalism", "Mechanical Makeup of the Journals", "Financial Appraisal", "Problems of Business Management", "Socio-Economic Medical Articles" and "Medical Writing as Observed by a Reader".

The meeting was more or less a clinic in that it pointed out what is wrong with the average medical journal, how to improve it, what the readers like and the valuation of the different departments. Mechanical make-up of journals was discussed in detail, giving sizes and styles of type, and how these may be combined to make the journal more easily read. In the financial appraisal of journals, it was interesting to note that the *Virginia Medical Monthly* is among the few that was self-supporting.

The value of the scientific section of the journal was stressed. Most doctors only get one journal (probably the Journal of the American Medical Association) besides the state one and they need good scientific sections. Articles should be brief and to the point with an adequate summary, which must tell the conclusions which have been reached. State medical journals should be a medium in which ambitious young authors can publish their first articles

and thereby really get a good start in being a good author. Priorities in publication should be given some special scientific research articles.

It was agreed by all present that this was a most instructive and necessary meeting, and it was announced they will be held every other year in the future.

E.S.W.

Joint Meeting of Pathologists.

A joint meeting of the Middle Eastern Region, College of American Pathologists, and the Virginia Society for Pathology and Laboratory Medicine was held in Richmond on November 30. Dr. Frank L. Apperly of Medical College of Virginia presided. Papers were presented at both morning and afternoon sessions and a seminar on "Surgical Pathology of Certain Tumor Types" was conducted at the afternoon session by Dr. Frank W. Foote, Jr., associate pathologist of the Memorial Hospital, New York City. In the evening, the doctors had dinner at the Commonwealth Club at which Dr. William R. Bond, clinical research director of A. H. Robins Company, was speaker.

Dr. Geoffrey T. Mann of Richmond was chairman of the committee which prepared the program, and Dr. J. H. Scherer, also of Richmond, was chairman of the arrangements committee.

Office Space Available.

Doctor's or Dentist's office available immediately, corner Harrison and Franklin Streets, Richmond. Call 5-4397. (*Adv.*)

OBITUARIES

Resolutions on the Death of Dr. Wilson Elliot Driver.

Dr. Wilson E. Driver, whose death occurred on October 14, 1951, was one of the most prominent specialists in Eye, Ear, Nose and Throat, in the South. He was born in Driver, Virginia, on October 16, 1870.

After early education in local schools, he graduated from the University of Maryland's School of Medicine, in 1893. He later took a course at Johns Hopkins University, and became one of Norfolk's earliest specialists.

Dr. Driver was keenly interested in allergies and, as far back as 1900, he had his own laboratory working on the problems pertaining to allergic reactions.

During World War I he served his country as a Major in the Army, having volunteered as soon as the United States declared War.

He was a member of many medical societies, including

the Norfolk County Medical Society, The Medical Society of Virginia, the American Medical Association, and the American College of Surgeons.

Dr. Driver is survived by two sons, Wilson E. Driver, Jr., of Norfolk, and Robert B. Driver of Sao Paulo, Brazil, with whom he visited after his retirement from private practice 8 years ago. Also he is survived by his daughter Mrs. Lemuel Shepherd.

Whereas, Norfolk has lost an outstanding physician and a member of this community, BE IT RESOLVED:

That these resolutions be entered in the minutes of the Norfolk County Medical Society, and a copy of same be sent to the Virginia Medical Monthly, and to the family.

Committee:

N. G. WILSON, M.D.

C. L. HARRELL, M.D.

A. A. BURKE, M.D., *Chairman.*

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GUEST EDITORIAL

Inter Alia

A MODERN and enlightened social philosophy has so extended the insurance principle that there is hardly a sphere of human endeavor which may not be compensated for untoward result, real or fancied. A vast procession of cases passes through our courts daily in which the physician is a desired or essential witness, expert or otherwise. Formerly, a practitioner in court almost always confined his testimony to either the issue of sanity or to the physical facts of a death. Today he may be called on to arbitrate the question as to whether a contact dermatitis appearing on the leg of a glamorous cinema star is likely to produce an effect calculated to make the possession of their owner less desirable in the eyes of an adoring public.

Even when no medical question is in issue, the profession lurks in the background through the medium of notes displayed by jurymen, witnesses, litigants, etc., all properly certifying the necessity of judicial delay on pain of horrible catastrophe to life and limb. One would think therefore that every member of the profession would recognize the inevitability of appearances in court, and the necessity therefor.

The fact is, however, that many able physicians have a distinct aversion to appearing in court as witnesses. This is based more on unfamiliarity than fact. They do not fear the direct examination, but have a horror of cross-examination by opposing counsel, which is difficult to comprehend. It is the experience of any trial lawyer that to cross-examine a medical witness who has given a straight forward answer in simple language, easy to comprehend, on a subject matter with which he is obviously familiar, is to invite disaster. Such a witness is not uncommonly passed over in almost indecent haste.

Perhaps if physicians better understood the basic philosophy of the law their hesitation in appearing as witnesses would disappear. Most medical men are obsessed with the notion that the primary function of courts is to deal out justice. This concept, while noble, is not strictly accurate. Justice is relative and varies with time and circumstance. It is more correct to look upon courts as places where problems are settled once and for all. Society has learned, at least nationally if not internationally, that it is in the public interest to have disputes between citizen and citizen, or between the sovereign state and citizen settled. The courts, of course, try to decide the issue by awarding a decision according to law. It is a happy coincidence that law and justice usually go hand in hand, according to our concepts, but this is not necessarily so, and one might suppose, never true with respect to the losing side. Thus, in all cases, a decision must be reached, and it is part of the physician's moral and social responsibility to assist the courts in this function to the best of his professional ability.

One of the problems most frequently encountered with respect to physicians appearing as witnesses, is an inclination to avoid drawing conclusions. Most medical men

feel qualified to observe facts at the clinical examination, and these are religiously listed. But when it comes to drawing conclusions from these facts, there is a hesitation, which, while understandable, is often carried to extremes. One might cite innumerable examples, but one will suffice. A patient struck by an automobile is bedridden, and in a few days develops pneumonia and dies. Those charged with the administration of justice are little concerned with the cause of death per se. What they want to know is, did the accident in any way contribute to the death. So often, bearing in mind preconceived notions of the function of courts relating to abstract philosophical concepts of justice, physicians will refuse to render an opinion on such a question, and retire from the problem with the pious hope that the jury will solve the question. It is submitted that this is purely a medical question, and in most cases after careful consideration of all the known facts, an opinion ought to be given. After all, it is an opinion, albeit one's best, and it is for the jury to accept or reject it. Does not the failure to solve a purely medical question, which can only have the effect of leaving it in the hands of laymen to decide, violate one of the fundamental ethics of the profession?

While to many physicians the law appears to be "a chaotic mass of heterogeneous inconsistencies", nevertheless, it derives from common sense, and the appreciation of this fact by the doctor, with respect to his relations with the law as a witness, will make him an invaluable aid in the administration of justice in his community.

GEOFFREY T. MANN, M.D., LL.B.

Dr. Mann is Chief Medical Examiner, Commonwealth of Virginia, Associate professor and head of the Department of Legal Medicine, Medical College of Virginia, Assistant professor of Pathology, M.C.V.

Bibliotheca Obstetrica

Siegemundin, Justine, (geb. Diettrichin) (1650-1705). Ein höchst-nöthiger Unterricht von schweren and unricht-stehenden Geburten . . . *Berlin, J. M. Rudiger, 1708.* 260 p. plates 19½ cm.

———: Hof-wehe-mutter . . . *Berlin, Christian Friedrich Voss, 1752.* 348 p. fronts. plates 22 cm.

The author was a great German obstetrician, Court Mid-Wife of Prussia. She kept careful notes of her cases and, when she published her book in 1690, it reflected the best obstetrical thought in Germany at that time. She and Mauriceau were responsible for introducing the practice of amniotomy to arrest hemorrhage in placenta previa.

GENERAL MANAGEMENT OF THE CEREBRAL PALSY PROBLEM*

WINTHROP M. PHELPS, M.D.,
Baltimore, Maryland.

PART I.

Cerebral palsy is responsible for as large a number of crippled individuals as any other single condition except poliomyelitis. Since poliomyelitis is an epidemic disease, the total number of cases varies from year to year and treatment must be arranged for on an emergency basis. Cerebral palsy is a condition resulting from many causes and at present is predictable in regards number of cases per year in any given community. Statistical investigation has shown that the expectancy of cases per year is approximately the same in rural and urban areas. The causative factors may vary somewhat but they balance each other so well that a definite prediction of the total number can be made.

These statistical studies, first completed by the author about 1940, have been verified by all subsequent studies. There are seven new cases in every 100,000 of population each year. Of these, one dies, so that the working figure is six surviving new cases each year. It is to be stressed that all of these six new cases are not the result of injury at birth or to prenatal conditions, since cerebral palsy frequently results from post-natal conditions, especially during the first three months of life.

A palsy is any condition which interferes with the normal control of the motor system of neurological origin. Thus, poliomyelitis is one of the spinal palsies, and there are many peripheral palsies, such as Erb's, or brachial palsy, and lead palsy. These conditions may be flaccid, spastic, athetoid, and so forth, depending on the nature of the interference with control. The group under present discussion are the palsies of cerebral origin as opposed to those of spinal or peripheral origin.

When the condition is of cerebral origin, one would expect associated handicaps to be present, since the brain has so many functions. These associated handicaps are the reason for the greater difficulty in the general management of the condition.

Briefly stated, the associated handicaps may be

grouped under (1) visual handicaps, (2) hearing handicaps, (3) mental or learning handicaps, and (4) convulsive states, or epilepsy. There are a majority of the cases in which the handicap is a simple one—involving only the motor system—with normal sight, hearing and mentality and free of convulsions. Speech handicaps may be present in these, purely because of the presence of palsy in the tongue or other parts of the speech mechanism. On the other hand, the speech may be involved as the result of a hearing loss or because of mental or intelligence impairment.

In the total evaluation of a cerebral palsied individual it is very important to evaluate the speech mechanism, the sight, and the hearing, as well as the motor handicap before determining the underlying mentality. Too often a child is judged to be mentally deficient because the sight or hearing is assumed to be normal. Often these associated handicaps are hard to discover in the presence of the general crippling condition. There may be pitch cut off hearing defects, in which a child can hear noises perfectly, but is unable to comprehend speech. Visual acuity may be perfect, but eye muscle control impaired so that learning to read is very difficult. If these handicaps can be completely evaluated and allowed for in the examination, the percentage of cases in which true mental deficiency due to brain damage is only about thirty per cent of the total. Mental deficiency must also be carefully differentiated from retardation due to lack of experience with the environment because of the crippling condition.

With all of this in mind, it becomes evident that the evaluation of the cerebral palsied individual for treatment requires the services of a team. This team would of necessity be composed of doctors and those working in the special fields of education as, for example, the blind and sight conservation, and the deaf and hard of hearing, and the field of speech training.

One mistake frequently made is to decide the question of treatability of the physical handicap on the basis of the mental evaluation. There is no

*Read by invitation at the annual meeting of the Medical Society of Virginia at Virginia Beach, October 7-10, 1951.

correlation between these two. A mentally retarded cerebral palsy may be taught to walk, for example, just as quickly as a brilliant child. The question of selection of cases for treatment should take into consideration all factors in the individual and not be based on the mental evaluation. If a mentally retarded child could be taught to walk, or talk, or feed himself, his care either at home or in an institution would be greatly simplified and free up other individuals for more useful activities.

The question, then, is, what must be known about the cerebral palsied child or adult, to determine the planning for his future from the points of view of treatment, education and vocational placement in society.

The diagnosis must first be established. The patient must demonstrate the presence of a palsy. This may be of flaccid type, spastic, or rigid type, or there may be involuntary motion, tremor or primary incoordination present. All of these represent different kinds of palsies. It is then necessary to determine that the palsy is of cerebral origin and not of cord or peripheral origin. These two determinations, are for classification in the proper clinics and the type of palsy found will determine the type of treatment to be instituted. This examination is mainly neurological, and would include probable etiology and also rule out progressive and degenerative diseases of the nervous system.

The orthopedic examination would then follow and determine the degree of severity of the palsy, the presence or absence of true contractures and other deformities, and the types of therapy to be instituted. These would include physiotherapy for gaining balance and locomotion, occupational therapy for the self help activities such as feeding, dressing, writing and the like, and speech therapy if necessary. It would also include what adjunctive therapy would be of value, such as bracing and other apparatus, drug therapy and orthopaedic surgical procedures. It should be stated here that the degree of severity of the palsy is *not* in any way an indication for or against treatment. If, for example, it is felt that the legs are so badly involved that walking is out of the question, arm treatment might be of great value in developing greater independence in wheel chair propulsion. Or in the case of a very severe total motor handicap, speech therapy might be the only indication.

Following this examination, very careful eye examination should be carried out by the ophthalmologist for eye ground study, visual acuity and extra ocular muscle control. The otolaryngologist should determine the hearing, possible pitch cut-off deafness and the status of the larynx and associated speech mechanism. These examinations of the eye muscles and speech mechanism can be best made if the specialists in these lines are fully aware of the complete neurological and orthopaedic findings.

In a certain proportion of the cases some form of epilepsy may be a complicating factor which, if present, will make the total prognosis for improvement in all lines much less favorable. Chronic infection, such as bad tonsils, will also alter the prognosis, so that a complete general or pediatric examination including electroencephalogram should be carried out and correction of these conditions instituted.

Any other special examinations would be determined by the findings of the group and might include treatment of severe allergies, dietary or vitamin deficiencies and the like. In some instances, the cerebral palsy condition may be found to be much milder than originally supposed when coincidental conditions have been eliminated.

All of the above information about the patient should be obtained before a psychometric or mentality evaluation is attempted. Psychological testing by standard tests assumes a physically normal child to begin with. Obviously the test will not be accurate if all the defects are not known to the examiner. Most of these are unsuspected visual or hearing conditions or perhaps distorted or unintelligible speech. In some of the spastics and rigidities there is a time-lag in response which is purely muscular and no indication of the actual thinking response. Other cerebral palsied children are emotionally upset and many of the more severe have of necessity been treated like babies and hence act like babies, which also would be misleading with regards underlying intelligence. Dr. Harry Bice, the psychologist for the New Jersey State program for cerebral palsy, has found it very helpful to make the psychological test in the home environment rather than the office where he can see at first hand the way in which the child is cared for. In the past too many of these children have been adjudged

mentally defective because of incomplete evaluation of all the handicaps present.

PART II.

TREATMENT PLAN, OPERATION OF PLAN AND PERSONNEL

An organized plan for cerebral palsy was first established in New Jersey under the New Jersey State Crippled Childrens Commission in 1936. It was there that by trial and error over a period of years a satisfactory and workable plan was evolved. A few years later the Ohio Society for Crippled Children and Adults decided to make cerebral palsy its chief objective. The following plan is offered, based on the experience in New Jersey and Ohio. Naturally any plan must be modified to meet the geographical demands of a given state.

COORDINATOR

The first essential for a smoothly running program is a coordinator who can relate all phases of the program. It has been found that the best person for this is the Public Health Nurse and her functions will become apparent as the plan is developed

CASE FINDING

A. From existing regional crippled childrens clinics.

B. From orthopaedic, neurological, and pediatric hospital dispensaries and out-patient departments.

C. From regular public schools—reports from public school nurses.

D. From visiting or public health nurses in the homes.

All of these sources should report the children directly to the coordinator.

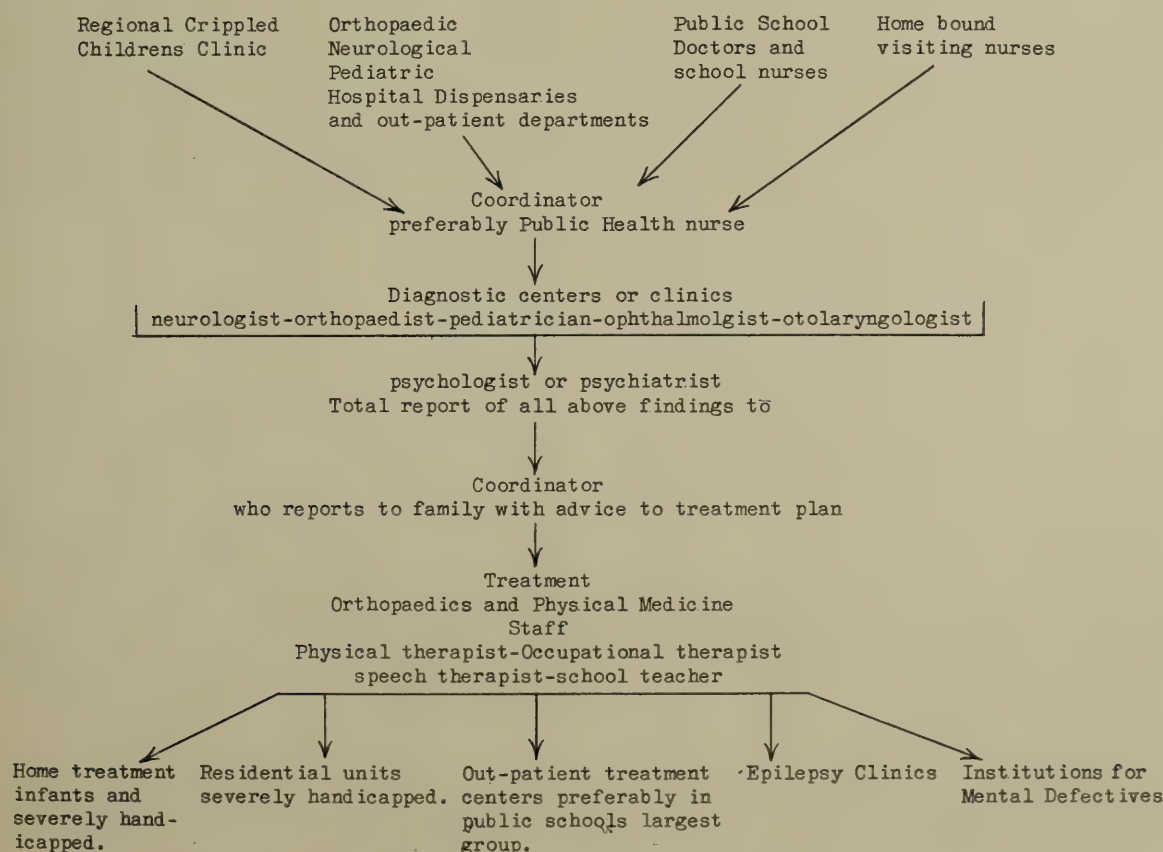
DIAGNOSTIC CLINICS

These should be held regionally and their frequency determined by the number of children found in a given area. Here the following facts are determined.

A. Differential diagnosis to determine actual presence of cerebral palsy—by neurologist.

B. Etiological determination—by neurologist to prove condition is static and not a progressive degenerative disease.

Case finding



C. Presence or absence of epilepsy. If present, child should be referred to an epilepsy clinic since adequate progress cannot be made while epilepsy is active.

D. Determination of type of cerebral palsy, where athetoid, spastic, rigidity, ataxia or tremor by neurologist, and/or orthopaedist—for purposes of treatment. Electroencephalogram frequently necessary—air studies sometimes.

E. Degree of severity of involvement in legs, arms, speech, sight and hearing—by orthopedist, ophthalmologist and otolaryngologist.

F. Presence or absence of actual or true deformities by orthopedist.

G. General pediatric evaluation for any associated or unrelated co-existing conditions—by pediatrician.

H. Mental evaluation by psychologist or psychiatrist who has all the above findings at his disposal.

TREATMENT PLANNING

Treatment should be started as early as the condition can be diagnosed—under one year of age when possible—much valuable time can be saved and deformities prevented.

Treatment plans will depend on

A. Age group: pre-school—school age—adult.

B. Degree of severity: residential unit—day school or home treatment.

C. Presence or absence of epilepsy or mental retardation or deficiency.

Since treatment of the motor handicap must be paralleled by education, it has been found best to set up the out-patient treatment centers in public schools wherever possible to save transportation. Too much can not be said for the fine cooperation of the departments of education with the medical profession in the states where this general plan is in operation. The involvement of sight, hearing and speech makes special educational methods necessary very frequently.

OUTLINE OF TREATMENT

This is usually the function of orthopaedic and physical medicine personnel including:

A. Physiotherapist

B. Occupational therapist

C. Speech therapist

D. School teacher

Treatment is primarily by the therapies, but there

are definite adjuncts to treatment which include braces both for prevention and correction of deformities, as well as control braces, especially in athetoids. These braces are very different in construction from those used for polio and, unless the bracemaker is familiar with the special problems of cerebral palsy, are likely to be worse than useless. Other adjuncts to treatment are the use of certain drugs and orthopaedic surgery in adults and occasionally in children.

COSTS OF TREATMENT

Since the treatment consists of actually training the motor system to do what the normal child does automatically, it must extend over a long period of years. Children cannot learn activities with arms and legs until they reach the age at which these skills would be possible in a normal child. Hence, length of time of treatment must be considered in the cost. Braces are also a large item in the expense.

The salaries of the therapists and attendants and special transportation to the school would have to be considered. A team of one physiotherapist and one occupational therapist and speech therapist can handle not more than twenty children each day adequately. It has been found, however, that if improvement is measured, treatment three times a week is almost the same as daily, but that improvement drops sharply when treatment is given twice a week or less. This is when no supplementary treatment is given by the parents. Of course, if the parents can be taught, fewer treatments are necessary. Hence, the single team of therapists can handle 40 children if treatment is given three times a week.

When the diagnosis and planning for the child has been completed the coordinator is advised and the public health nurse then explains the situation and plan to the parents and arranges to carry out the plan whether home treatment, in babies and severe cases, or school placement either residential or day school. The coordinator will know of the facilities and sources of financial aid when necessary. All interested agencies should cooperate closely with the state services for crippled children and the department of education in carrying out the plan.

TRAINING OF PERSONNEL

The Children's Rehabilitation Institute for cerebral palsy is presently located in Cockeysville, Mary-

land, outside of Baltimore, but is hoping to build within the next year or two on land which it owns in Baltimore. It is a non-profit institution and the chief purpose of it is the training of personnel in the management of cerebral palsy. There are at present four courses given, one for doctors, who are either members of their specific specialty boards or who are in residency training in accepted centers pointing toward their boards. The institute is recognized for three months credit in training during the children's year by the orthopaedic boards. Two courses, one for physical therapists who are members of the registry of physical therapists and one for occupational therapists who are also members of their registry, are given as definitely post-graduate training. A fourth course is given to public health nurses or others qualified to become coordinators of programs. All of these courses are of three months minimum duration and all taking them are certificated on completion of examination.

This training service was begun about ten years ago and to date about sixty doctors and two hundred therapists have been graduated. They are scattered throughout many states and some foreign countries and are almost all carrying out active programs

in their localities. This training is very necessary for a successful program and it is our feeling at the institute that less than three months, even in students with the background described, is too short a time for adequate understanding of the problem. The students are not only trained in the techniques of treatment, but go on clinic trips to many surrounding areas to learn how the problem is handled and how best to adapt existing plans to their own state or country. The institute itself is a residential treatment center and school for eighty children and has a total staff for care of better than one to one.

In the past I have had to assist in planning for treatment of children in many states and this is quite an unsatisfactory system because of the limitations of facilities in many areas. It is my definite belief that each state can carry out a satisfactory solution to the problem, utilizing the facilities and personnel within its borders, if a plan such as described can be set up. The fact that such a plan has been in operation for 15 years in New Jersey is evidence that satisfactory results are being obtained.

3038 St. Paul Street

Radiation Protection Given by New Lead Glass Fabric.

A gown of lead glass fabric, designed for protection against x-ray radiation and beta radiation of atomic fission products, has been proved successful, according to an article in the Jan. 12 Journal of the American Medical Association.

The advantages of the gown over existing protective devices, the report stated, include its complete protection of all exposed parts of the body, flexibility, durability, a weight of only 10½ pounds which is

evenly distributed over the body, and cleanability, since the garment may be washed with soap and water.

In addition, lead glass material may be used as a curtain to block off radiation in a room where superficial therapy is given or in a radiographic room.

The report was prepared by Drs. Vincent W. Archer, George Cooper, Jr., J. G. Kroll and D. A. Cunningham of the department of roentgenology of the University of Virginia Hospital, Charlottesville, Va.

THE USE OF ADRENAL CORTICAL HORMONE IN ALCOHOLISM—

Report of 100 Consecutive Cases*

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Is there a doctor anywhere who is not afflicted almost daily by patients who descend on him with sensational ideas of miracle therapy found in the latest issue of the lay press, particularly such jewels of medical knowledge as *Reader's Digest*? As unwelcome as most such visitations are, this is the tale of one with a happy ending.

In September, 1950, Mr. H.C., a staunch member of Alcoholic Anonymous, whom I had laboriously nursed through several prolonged binges but who had remained on the straight and narrow for five months, approached me in my office. "Doc", he said, "I have been fighting an urge to get soused for three days, and I can't stand it any longer. I'm on my way to the ABC Store, but since I honestly don't want to go through another binge, I thought I'd give you a chance to keep me from drinking." I sighed and said I wished I could. "Here", he continued, "read this article!" and he produced a lay magazine, opening it to a treatise entitled "New Hope for the Alcoholic", referring to the use of Adrenal Cortical Extract in the treatment and prevention of alcoholism. It was, I thought, another of those cure-all articles; but it was well-written, and did sound enticing.

Here was a challenge, and a promise to postpone his binge was not hard to obtain, and although I doubted there would be any benefit resulting, we agreed to try. Since it was available, I gave him $\frac{1}{2}$ cc. of Lipo Adrenal Cortex, i.m., and 1000 mg. of vitamin C by vein. Three days later he reported, very sober, very calm, and most enthusiastic about the almost immediate effect. He had even by-passed the liquor store three blocks away! He stated that it was remarkable how the over-powering urge had vanished and did not return.

A long search of the literature was fruitless. It seemed there simply had not been enough time for the work to be published in medical journals. At any rate, I obtained some Adrenal Cortical Extract,

using on successive cases a random dose of 1 cc. intravenously, combined with 500 or 1000 mg. of ascorbic acid, and found my own enthusiasm building up.

About the first of this year, the elusive literature was finally found: papers by Dr. James J. Smith, of Bellevue, in the *Quarterly Journal of Studies on Alcohol*, Drs. Tintera and Lovell in *Geriatrics*, and Hirsh in *Postgraduate Medicine*. A review of these papers produces some new concepts of alcoholism. Former concepts of the condition dealt only with the external environment and personality problem of the alcoholic, disregarding his internal or physiological and metabolic environment, while these recent studies have supported the hypothesis of metabolic factors in the etiology of alcoholism.

In this country of 60 million social drinkers it is estimated that there are 3 million who drink to excess, and of this number one-fourth, or 750,000, are problem drinkers. Hirsh classifies problem drinkers as follows:

1. *Symptomatic alcoholics*—where alcoholism is the expression of some underlying inadequacy or physical or mental defect (i.e., epilepsy, psychoses, psychoneuroses, mental deficiency and psychopathic personality). This group comprises 40 to 60 per cent of alcoholics.

2. *True Addicts*—those who are incapable of a normal reaction to alcohol because of some inborn error in their hereditary metabolic make-up or modified during important growth periods.

3. *Secondary Addicts*—those who resort to alcohol as a result of situational factors in their own lives which impose too great a stress to surmount.

During the period of habituation to alcohol certain personality changes and possibly physical changes occur in the secondary addict. Selye has noted that worry, grief or other alarm stimuli in the presence of alcohol ingestion will produce hypertrophy of the adrenal cortex and eventually hypo-adrenocorticism. Alcoholic over-indulgence ultimate-

*Read before the annual meeting of the Medical Society of Virginia at Virginia Beach, October 7-10, 1951.

ly affects in turn all the vital organs in addition to the central nervous system, and these pathologic changes, regardless of etiology, present a challenge to the medical profession. Our aims in medical treatment are to prevent or alleviate the physical effects produced by alcohol while we attempt to get at the root of the problem through re-education and rehabilitation of the individual by psychotherapy, and/or through the methods of Alcoholics Anonymous.

Ingested alcohol is absorbed as such from the gastrointestinal tract and burned by the tissues, only about 10% being excreted *via* urine, sweat and expired air. Alcohol may be substituted isocalorically for another food and is apparently metabolized at a constant rate irrespective of the concentration in the tissues. Alcoholic over-indulgence produces an initial hyperglycemia but an eventual hypoglycemia; it is accompanied by an initial retention of nitrogen, potassium and sodium, but during the recovery period produces an increased excretion of the electrolytes—an effect not unlike that noted in the absence of the adrenal cortical hormone.

Tintera and Lovell believe that imbalance, as evidenced by pre-existing hypoadrenocorticism, may predispose certain young males to alcohol sensitivity, and that long continued alcoholic indulgence may cause damage to the adrenal cortex. Smith postulates that problem alcoholics conform to a physical and biochemical pattern involving the pituitary-adrenal-gonadal triad and that adrenal exhaustion is involved. He believes that endocrine dysfunction antedates alcoholism; that the defect is primarily a pituitary deficiency to which adrenal cortex inactivity is secondary.

Treatment by these authors with adrenal cortex extract consisted of intravenous administration of 30 cc. in divided doses during the first 24 hours, 20 cc. in the next 24 hours, and 5 to 10 cc. daily for three days, followed by intramuscular injection of 2 to 5 cc. twice a week for three weeks, then weekly doses for an indefinite period. This was combined with a diet high in fat, moderate in protein, and restricted in carbohydrates. Sedatives were usually not necessary. Hospitalization of the acute alcoholic for 3 to 5 days was always desirable and often necessary, though out-patient treatment often met with good results. ACTH in doses of 25 mg. and 10 cc. of adrenal cortex hormone were used every 6 hours

for 24 to 36 hours in severe alcoholics with hallucinosis or delirium tremens. In dealing with the chronic alcoholic, Smith also administered testosterone to the males and estrogen to female patients whose alcoholism was post-menopausal.

However, Forbes has shown that an intoxicating dose of alcohol administered to normal rats and guinea pigs caused a distinct reduction in both the cholesterol and ascorbic acid content of the adrenal glands, and concludes that alcoholic intoxication imposes a condition of stress which results in a depletion of these adrenal constituents.

With your permission I would like to report 100 consecutive cases of alcoholism in 53 patients, treated in the office or at home with adrenal cortex extract. In the past this product has been exceedingly scarce, and it would have been impossible to treat more than a very few people if the schedules recommended above had been followed. And, surprisingly enough, my random restricted dosage of 1, or later 2, cc., combined with 500 or 1000 mg. of ascorbic acid, given intravenously, gave very satisfactory results. It has been my impression that the larger doses might have been more successful in the very ill patients. A.C.E. given alone was not nearly as effective as when combined with ascorbic acid, and ascorbic acid alone was ineffective. A more slowly-acting product—Lipo Adrenal Cortex—was given where speed of action was not important, and to carry the patient after the acute symptoms were controlled. The oral preparation, Cortalex, had little or no effect. In a few cases the sex hormones were also given, though without apparent effect.

As seen in the table, I have attempted to classify the 100 cases, involving 53 patients, as to their degree of alcoholism, from very acute to moderately severe. As to results, excellent means no further alcohol, rapid improvement, and complete recovery of the acute attack; fair means some improvement only; and poor means failure in alleviation of the alcoholism—without exception in people who continued to imbibe, in spite of promises and attempts at its removal.

The very acute include those who were on the point of, or were actually having, the hallucinosis of delirium tremens, or were talking actively or had attempted suicide, and so on. There were a total of 9 such cases, 4 of which received only one injection, 2 received 2, and 3 received more than two

injections. Six required a sedative. As to the results, 3 were excellent, 3 were fair, and 3 were poor. Incidentally, the sedation prescribed was always mild, such as a dram of paraldehyde or Elixir Butisol Sodium, or $\frac{3}{4}$ gr. Nembutal, and in such small doses was found to be adequate.

Further were the acute, very severe, cases, which were short of DTs but were quite ill. Of 18 cases, 7 received one and 7 received but two injections; 11 cleared rapidly, 2 were considered fair, and 5 were considered failures. There were 29 cases of acute, severe—not quite as ill—18 of which received but one injection; 22 showed excellent results, 4 were failures, and 3 could not be traced. The best results seemed to be in the acute, moderately severe, cases. They were sick enough to want help, but sensible enough to cooperate. Of 29 such people, 26 were benefited beautifully, two were failures, while one could not be found. Sixteen of these required but one injection, eight required two, and five required more than two injections; ten required sedation. The moderately severe apparently were not sick enough to cooperate; of ten such cases, four were helped completely, five were only partly helped, while one was a failure. Only one required sedation. In the five patients who admitted an “urge”, all received but one injection of either ACE or Lipo Adrenal Cortex with excellent results.

The total of 100 consecutive cases in 53 patients shows excellent results in 71, fair in 10, poor in 15, with 4 who could not be followed. Fifty-six received but one injection, 28 received two, while 16 required more than two injections (3 to 12). Many of the failures, particularly the very ill, had to be hospitalized; some of these were patients obviously disturbed other than by alcohol alone. Of the 53 patients, 42 were male and 11 were female; their ages varied from 28 to 63 years. The repeaters were 9 males who were treated on from two to five separate occasions, and 8 (of the 11) females, also treated from two to five times except for one who was treated nine times.

Not included in the series were three cases of barbiturate addiction, combined in each case with dexedrine or a similar drug. Each received many injections and each was cleared of his condition dramatically, and within a week. Also noted were attempts to help three cases of opiate addiction, one from paregoric and the others from a large morphine or dilaudid habit, all while waiting for hospitaliza-

tion. The paregoric victim was later treated in a local hospital and the ACE was continued, with some help. The others were able, under rather large doses of the hormone, to reduce their medicine one-fourth and one-half in the period before hospitalization.

It was found that there were several things necessary to make this treatment a success. First is a definite desire on the part of the patient to stop drinking; otherwise cooperation will not be forthcoming. Absolute abstinence from alcohol is necessary; for even a small amount definitely cuts down the effect of the hormone. Encouragement, especially in the form of “AA tactics”, is vital, and an explanation of what he should expect from the treatment is helpful. Forcing of fluids and the ingestion of nourishing food is soon made possible by the treatment, and is important. Vitamin B complex and vitamin C, orally, in large doses was found to be of value. Experience has been limited in the use of the sex hormones in combination with the adrenal cortex; no doubt they are of great value when there is as a definite need for them.

It is remarkable to see the improvement in mental outlook and physical condition of these patients, which frequently can be observed within 15 minutes. There is a sedative effect upon the acute alcoholic, along with a definite sense of relative euphoria; he will almost always have a fairly good night's sleep, and be able to take and retain juices within a short while. This gives hope and confidence to a depressed and beaten individual. No adverse side-effects were observed. The injection was often given in the presence of an elevated blood-pressure, which often dropped as the patient improved.

There seems to result an almost specific action in stopping the need and craving for alcohol in both the acute and the chronic alcoholic. It has no lasting effect in preventing further alcoholic bouts, although it can prevent a binge if taken prior to indulgence. I believe the combination of the ACE within vitamin C is very necessary; the effect is thus enhanced.

I would like to mention again that these patients were not treated in the hospital, where optimal conditions can be obtained. That fact alone emphasizes the efficacy of the treatment of a condition so difficult to control on the outside, and so often discouraging both to physician and patient. It, of

	Number of Injections				Sed.	Results			
	1	2	More	Total		Excel	Fair	Poor	?
Very acute (hallucinosi, suicide attempt, etc.) -----	4	2	3	9	6	3	3	3	0
Acute, very severe -----	7	7	4	18	12	11	2	5	0
Acute, severe -----	18	8	3	29	11	22	0	4	3
Acute, moderately severe -----	16	8	5	29	10	26	0	2	1
Moderately severe -----	6	3	1	10	1	4	5	1	0
"Urge" only -----	5	0	0	5	0	5	0	0	0
Total Cases (53 patients) -----	56	28	16	100	40	71	10	15	4
Barbiturate addiction -----	0	0	3	3	0	3	0	0	0
Opiate addiction -----	0	0	3	3	1	0	3	0	0

course, should be combined with the recognized treatment of the alcoholic, such as psychotherapy and rehabilitation, with special emphasis on the tactics of AA.

One interesting sidelight on the hypoadrenocorticism theory was the treatment of three patients who had rather severe post-grippe prostration. Two of them, whose adrenal glands had been subjected to rough treatment in former years of alcoholism, responded dramatically; the other, not an alcoholic, showed no improvement. The similarity between the prostration of post-alcoholism and post-infectious states suggests wider use of the hormone in the alcoholic, particularly when he is or will be subject to any sort of stress, whether alcoholism is the immediate problem or not.

SUMMARY

A new concept of the etiology of alcoholism—that it is either a metabolic disease or a condition of altered metabolism due to continued use of alcohol—has been discussed, and the treatment with large amounts of adrenal cortical hormone by Drs. Smith, Tintera and Lovell, was summarized. A report of 100 consecutive cases of alcoholism in 53 patients treated in the home or at the office with small doses of the hormone combined with ascorbic acid, was given in some detail. Excellent results were obtained in 71% of all cases, ranging from very acute to moderately severe. Three cases of barbiturate addiction and five cases of severe "urge" to drink were effectively treated. It is felt that the endocrine treatment of alcoholism is an excellent adjunct to our present therapy of this distressing disease and should be more widely used. It is especially well-suited for use in general practice, for by it a large

majority of the sick alcoholics can effectively be withdrawn and controlled without resort to hospitalization.

REGIME OF TREATMENT

Adrenal Cortex Extract (Upjohn or Armour) 2 cc }
Ascorbic Acid, 500 or 1000 mg.; 1 or 5 cc }

The above injection, mixed and given intravenously, may be repeated every 6 to 24 hours as indicated. After the acute symptoms are controlled, patient may be maintained with ½ cc Lipo Adrenal Cortex intra-muscularly every one to two days. The above dosage of Lipo A.C. is helpful in abolishing an "urge" to drink prior to the use of alcohol.

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1000 Park Avenue

INFECTIOUS MONONUCLEOSIS: A CLINICAL ANALYSIS OF 210 SPORADIC CASES*

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A. INTRODUCTION

Infectious mononucleosis is a disease that is probably more common than is generally believed. The failure to recognize its prevalence is due to its mildness in the majority of cases and the inability to make an etiologic diagnosis. The best that can be done is to make a presumptive clinical diagnosis and substantiate it with suitable laboratory procedures.

The purpose of this report is to present the pertinent clinical and laboratory findings in a study of 210 sporadic cases of infectious mononucleosis. In this presentation it is intended that the unusual as well as the usual manifestations of this common disease be given to re-emphasize its protean character.

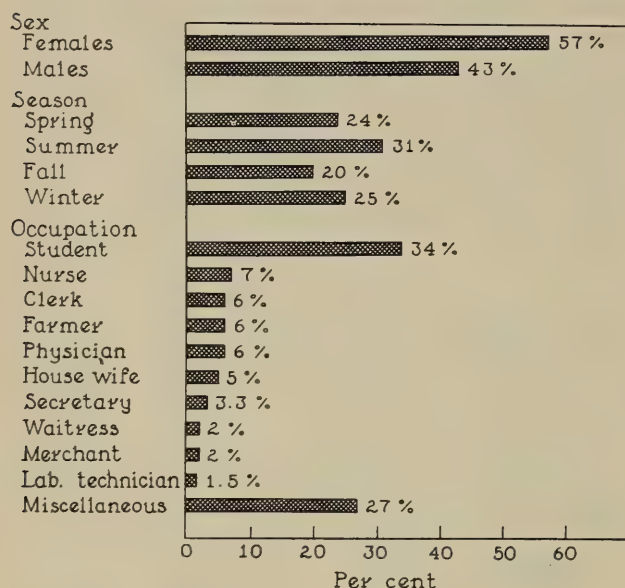


Fig. 1.—Incidence by sex, season, and occupation.

The 210 cases selected for analysis were patients at the Mayo Clinic between January 1937 and December 1946, inclusive. They were selected on the basis of having either a positive blood smear or a positive heterophile agglutination test. A positive blood smear was taken to be one in which the differential count showed at least 50 per cent lympho-

cytes of which a significant number were of the abnormal leukocytoid variety described by Downey. Heterophile agglutination was considered to be positive when patients' serum contained agglutinins for sheep red blood cells in a titer of 1:224.

The incidence by age ranged from 9 months of age to 68 years of age with 59 per cent occurring between the ages of 16 and 26 years. Ninety-three per cent were in patients under 35 years of age.

Females constituted 57 per cent of the total number (Figure 1). No racial distribution was found.

It was estimated that 50 per cent of the patients were residents of the local community or its environs. The remainder came from other parts of the United States or from foreign countries.

The seasonal variation of the disease showed the highest incidence (31 per cent) to occur in the summer months (Figure 1), which is contrary to the general observation that the incidence of infectious mononucleosis decreases at this season.

The incidence by occupation (Figure 1) demonstrated that infectious mononucleosis may not be categorically classified as a disease of any one certain economic or social group. It should be suspected and sought for in any patient regardless of age, sex, race, or occupation.

B. EPIDEMIOLOGY

Information relative to epidemiology was limited. For example, the incubation period could not be estimated. It was noted, however, that in 109 patients an average of 11.9 days elapsed from the date of the first symptoms until the patients sought medical attention. The mortality was insignificant. There was only one death. This occurred in a youth 21 years of age who developed a secondary pulmonary infection.

There was a suggestion of a relationship between infectious mononucleosis and lowered resistance incident to other conditions. Eight patients, or 3.8 per cent of the total group, were found to have dental sepsis or a recent dental extraction.

Eight patients, in whom pre-operative blood studies had revealed no hematologic evidence of the disease,

*Abridgment of thesis submitted by Dr. Stevens to the Faculty of the Graduate School of the University of Minnesota in partial fulfillment of the requirements for the degree of Master of Science in Medicine.

Read before the annual meeting of The Medical Society of Virginia at Roanoke, October 8-11, 1950.

developed infectious mononucleosis during convalescence from general surgical procedures.

C. CLINICAL MANIFESTATIONS AND COMPLICATIONS

The protean nature of infectious mononucleosis gave rise to a variety of complaints (Figure 2) and

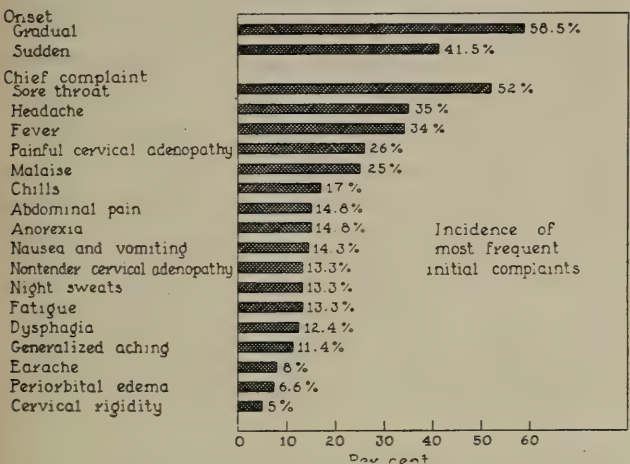


Fig. 2.—Type of onset and most frequent complaints.

clinical findings (Figure 3). Figure 4 gives a list of the numerous diagnoses these patients had on admission. This disease simulated other diseases so

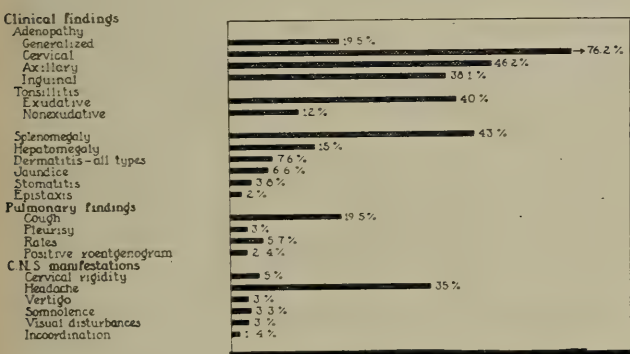


Fig. 3.—Incidence of more common findings in 210 patients.

closely that one wonders how often it goes unrecognized.

The onset was insidious in 58.5 per cent. Occasionally symptoms were absent and the disease was encountered in the course of a routine physical examination. In others the onset was acute with fever and chills.

(1) *Respiratory Manifestations.* Sore throat was the outstanding complaint (52 per cent) of the patients in this series (Figure 2). Exudative or membranous lesions of the tonsils or pharynx were noted in forty per cent (Figure 4). Lymphoid hyperplasia and marked edema at times caused dysphagia. Stomatitis was observed and was at times accompanied by

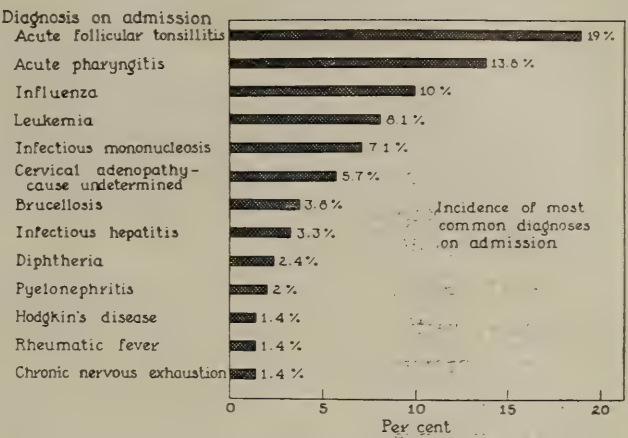


Fig. 4.—Diagnosis on admission of 210 patients in which diagnosis of infectious mononucleosis was made.

gingivitis. There was only one instance of peritonsillar abscess developing as a sequel to a severe tonsillitis.

Roentgenographic evidence of pulmonary involvement was found in only 2.4 per cent of the patients in this series, although cough, pleuritic pain and rales found on auscultation were noted in varying degrees (Figure 3).

Three per cent of the patients studied came for examination because of recurrent upper respiratory infections, and were found to have infectious mononucleosis. Chills ushered in the disease in 17 per cent of the cases. Fever of varying degrees was present in almost every case at some time during the course of the disease. The highest fever encountered was 105 F. The average duration of fever was between nine and fifteen days.

(2) *Gastro-Intestinal Manifestations.* Splenomegaly occurred in 43 per cent of the series (Figure 3) and was usually encountered between the tenth and twenty-first day. Enlargement of the spleen persisted in several cases from four to eight months.

Hepatomegaly was found in 15 per cent, but jaundice appeared in only 14 of our patients, or 6.6 per cent of the total.

Abdominal pain of such severity occurred in two of the patients, that surgical exploration was done as an emergency measure. In both patients, the only significant finding was mesenteric adenitis. Abdominal pain as the presenting complaint was noted in 14.8 per cent of our cases (Figure 2), while anorexia occurred in the same frequency.

(3) *Neuro-Muscular Manifestations.* The onset of infectious mononucleosis was often characterized by severe myalgia, the paravertebral muscles being

most often affected, giving backache as a principal complaint.

In most patients in whom neurologic complications of infectious mononucleosis occur, headache has been the symptom that predominated. In this series 35 per cent complained of headache, especially at the onset of the disease.

Cervical rigidity was found in 5 per cent, while somnolence, vertigo, and visual disturbances were noted in approximately three per cent (Figure 3). Insomnia was noted with almost the same frequency. Visual disturbances encountered were blurring, diplopia, and scotomata. Mania and delirium occurred in two cases in which the clinical appearance was that of meningo-encephalitis.

(4) *Vascular and Lymphatic Manifestations.* Epistaxis occurred infrequently, and hematuria either gross or microscopic was observed in 12.8 per cent of our cases.

Demonstrable lymphadenopathy is not a *sine qua non* of this disease; however, it is of interest to note that of all the objective findings, cervical adenopathy was the most frequent of physical findings (Figure 3). Generalized enlargement of all lymph nodes occurred in only 19.5 per cent. A greater incidence of adenopathy was seen in the following order of increasing frequency: inguinal, axillary, and cervical.

(5) *Genito-Urinary Manifestations.* It was not uncommon to find abnormal constituents in the urine of these patients. Hematuria and other urinary findings, observed but not summarized in this analysis, were albuminuria, pyuria, and occasionally hyaline and granular casts. These findings, observed during the height of the disease, disappeared as the condition of the patient improved. In no case was renal function found impaired.

(6) *Cutaneous Manifestations.* In this group of cases only 16 of the 210 (7.6 per cent) exhibited dermatologic manifestations. Classified as to type of skin lesions, they were as follows: maculopapular 3, polymorphous (appearance of erythema multiforme) 3, urticarial 3, macular 2, morbilliform 2, hemorrhagic 2, and nodular 1. The appearance of rash in these patients bore no relation to the clinical course of the disease.

(7) *Ocular Manifestations.* Edema of the eyelids and periorbital tissues was noted in several of the patients (Figure 2). Photophobia, burning, lacrima-

tion, conjunctivitis and uveitis were found infrequently.

(8) *Relapses and Recurrences.* In ten cases a relapse occurred within a period of four months. We considered a relapse as a return of activity of the disease process with its clinical manifestations before all manifestations of the preceding attack had disappeared. An increase in jaundice was the principal indication of relapse, while tonsillitis or dental sepsis was the manifestation in other instances.

Recurrence was the term used to denote a second attack of infectious mononucleosis with the interval period between attacks (measured in months or years) being subjectively and objectively free of manifestations of the disease. Only two patients in this study could be classified as having recurrences. In both instances eight months was the interval between attacks.

D. LABORATORY FINDINGS

(1) *Hematologic Studies.* Eight per cent of the patients presented themselves for examination because their illness had been diagnosed elsewhere as leukemia. In only one case, however, did the smear of the peripheral blood strongly suggest this diagnosis because of the preponderance of Downey type III leukocytoid lymphocytes over the other two types of lymphocytes.

In our study 96.6 per cent had smears of the peripheral blood showing a significant increase in the atypical leukocytoid forms of lymphocytes. In 54.7 per cent a blood smear characteristic of this disease was obtained by the eighth day of the disease, while the average for all cases was 13.6 days. Serial smears were not taken in these cases, but it is likely that had they been done, probably all of the cases would have shown a significant number of abnormal lymphocytes.

Changes in morphology of other leukocytes in infectious mononucleosis were not striking. For the most part there was some left shift in the neutrophils even to the promyelocyte stage, but toxic granulations of neutrophils were rarely seen.

Anemia is not characteristic of infectious mononucleosis, and only 5.5 per cent were found to have a hemoglobin below 11 gm. per 100 cc. of blood. Platelets and bleeding time were not studied, although several isolated incidences of transient thrombocytopenia and prolonged bleeding time occurred.

The lowest total leukocyte count encountered was 600 leukocytes per cmm., while the highest count was 42,000. In general, the more elevated the total leukocyte count, the more severe was the clinical course.

Figure 5 shows the distribution of total leukocytes and per cent of lymphocytes in relation to the duration of the disease measured in days. The aggregate counts when charted did not depict a trend we have observed in several cases: a leukopenia occurring in

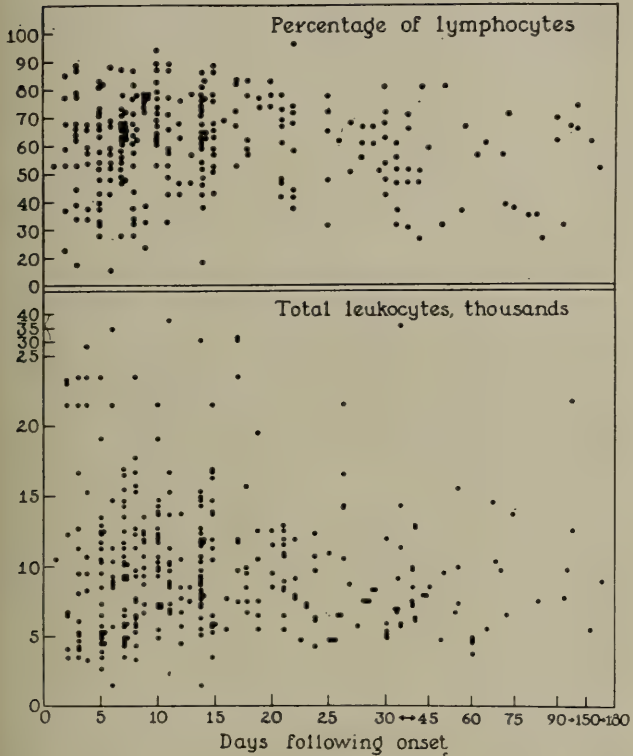


Fig. 5.—Distribution of total leucocytes and per cent of lymphocytes in relation to the number of days following onset of illness.

the early stages of the disease followed by a rapid rise to the peak count between the fifth and fifteenth day to be followed by a gradual return to normal values. It should be pointed out that normal to leukopenic total counts in early stages of sporadic cases such as ours are not usual in those of the epidemic form of this disease.

Neutropenia in the early phase of the disease became so marked that agranulocytosis was noted in one patient. The patient, a 65-year-old physician, showed a total leukocyte count of 7,600 cells per cu. mm. The differential count showed 96.5 per cent of these were lymphocytes, the majority being leukocytoid, and 3.5 per cent were monocytes. After four days, neutrophils reappeared in the peripheral blood

and the subsequent course of the disease was uneventful.

While one expects to see a lymphocytosis of 50 per cent or over at some stage of the illness, the occurrence of the atypical forms in the majority of the lymphocytes is most significant. Figure 5 shows the wide range of lymphocyte percentages observed in this series. These figures represent one or more determinations on each patient. The average degree of lymphocytosis was between 65 to 70 per cent. Usually the peak of lymphocytosis was reached by the fifteenth day and return to normal was completed by the thirtieth day. But it was not uncommon to observe a lymphocytosis persisting for months after the illness. In eight cases in which tests for liver function were performed, all showed impairment of function. This is consistent with recent observations^{1,2,3,4,5,6}.

(2) *Urine Studies.* Bile was found in the urine in only seven patients, while glycosuria occurred in thirteen. Hematuria, pyuria and cylinduria occurred in the presence of normal renal function.

(3) *Serologic Studies.* The sheep erythrocyte agglutination test (heterophil agglutination) reached a significant titer in 90.8 per cent of 142 patients in which this test was performed. The highest titer encountered in this series was 1:7168. Most of the elevated heterophil agglutination titers occurred after the seventh day of the disease (Figure 6), and in

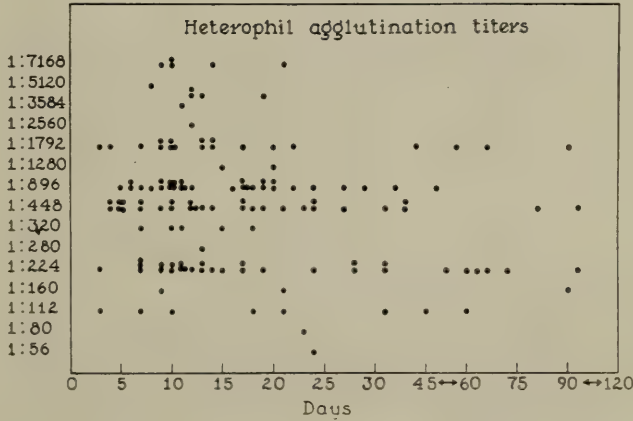


Fig. 6.—Range of heterophil agglutination titers according to day obtained.

51.4 per cent a significant elevation was demonstrated by the fifteenth day. Many times blood for serologic study was withdrawn too early in the disease for a significant titer to have become manifest. Maintenance of an elevated titer can be seen in Figure 6

in which instances of high titers after ninety days are recorded.

The elevation in titer was at times temporary, and, unless frequent determinations were made, one may not demonstrate a significant elevation of the heterophil titer as frequently as we did. In our laboratory we considered a titer of 1:224 to be of diagnostic value.

Four patients developed positive serologic reactions for syphilis which were temporary.

SUMMARY AND CONCLUSIONS

1. A study of 210 sporadic cases of infectious mononucleosis was made. No significant difference was noted between these cases and those encountered and reported elsewhere.

2. The most important findings on which to establish a diagnosis of infectious mononucleosis are (a) increase in the number of lymphocytes, with a significant number of them being atypical leukocytoid forms, and (b) either a rising titer of heterophil antibody or an already established high titer. Clinical findings are too diverse to serve as final criteria on which to establish a diagnosis of infectious mononucleosis.

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DISCUSSION

DR. G. WATSON JAMES, III, Richmond: I appreciate very much being called upon to say a few words in discussion of Dr. Stevens' scholarly and thought provoking paper on infectious mononucleosis. Dr. Stevens has very clearly pointed out to us this morning the importance

and varied clinical symptomology of this disorder of such protean manifestations. These observations are in keeping with an idea that infectious mononucleosis may be a key disorder in hematological research.

We know little concerning its etiology except we believe it is probably virus in origin; it is contagious, since it appears in epidemic form; but generally it is of low infectiousness. It may be also suspected, however, that a great many individuals have sub-clinical attacks and perhaps immunity. Recurrences and relapses do occur, indicating immunity is not absolute. The revival of an interesting note on the etiology of this disease has come from Australia in recent months. Many of us will remember as medical students seeing a plate in Maximore and Bloom's histology which demonstrated large numbers of monocytes brought forth by an infection rabbits with an organism known as *listerella monocytogenes*. The *listerella monocytogenes* is a causative organism of a rare disease, perhaps more common in certain animals other than man, which is characterized by a "monocytic" leucocytosis, bacteremia, hepatic necrosis, and occasionally encephalomyelitis.

The Australian workers found that the monocyte producing action of *listerella monocytogenes* was a part of the lipoid material of the organism. Actually, the M.P.A., as they called this substance, was serologically inactive, and had low tissue toxicity. They pointed out that infectious mononucleosis, as we know, assumes several different clinical forms. For these reasons they undertook to study twenty consecutive patients with infectious mononucleosis diagnosed by clinical and hematological means. The investigations were designed to determine whether there existed any relationship between the Paul-Bunnell titre and the presence of agglutinins for the *listerella* organism, and to determine if *listerella* could be isolated from the blood stream.

From these studies they derived three classifications: those with a positive heterophile test and also *listerella* agglutination; those with a positive heterophile test and a negative *listerella* agglutination; and those with a negative response to both tests. The *listerella* organism was not isolated from any of the blood cultures. They concluded that some cases of infectious mononucleosis may be due to infection with *listerella monocytogenes*. This may explain some of the variable results seen with antibiotic therapy. But the exact role of *listerella* in infectious mononucleosis, if it plays a role, must await further study before a definite answer can be obtained.

I should like to reiterate a little on what Dr. Stevens has said regarding the hematologic diagnosis of this disease. Occasionally we have been called to see a patient quite ill with a disease simulating an infectious origin and find marked changes in the peripheral blood. We have wondered whether the patient had acute lymphatic leukemia or infectious mononucleosis. Indeed, it is important to make a differential diagnosis. Three important things should be borne in mind in differentiating these two diseases. Acute leukemia is almost always

associated with anemia, thrombocytopenia, and the changes in the bone marrow make the diagnosis specific. Rarely, indeed, is infectious mononucleosis accompanied by pronounced anemia, or thrombocytopenia. If the onset of the disease is gradual with perhaps slight fever and lymph node enlargement, the differentiation from early chronic lymphatic leukemia may be difficult.

Dr. Stevens has reported elsewhere that in his patients there may be considerable myeloid immaturity, but not beyond the promyelocyte stage. Early examination of the bone marrow in patients where there may be doubt about the diagnosis is exceedingly important. In infectious mononucleosis the marrow is relatively normal except for slight myeloid hyperplasia, although some recent literature states that granulomatous inclusion bodies can be found in certain areas, and that the lymphoid areas in the marrow undergo diagnostic changes.

The treatment of this disease is still chiefly symptomatic. A recent report has advocated the use of aureomycin, and some physicians believe this drug is of value. The main objects in therapy are toward the local manifestations, provisions for adequate bed rest, and a diet well balanced with particular emphasis on higher carbohydrate and protein equivalents. If the throat is particularly sore and there is marked dysphagia, high caloric liquid diets are to be advocated. Antibiotics are not contra-indicated and may be helpful in treating secondary infection in the tissues of the throat.

There are two major complications: first, serious parenchymatous involvement of the liver, a so-called hepatitis, and, secondly, the dramatic complication of spontaneous rupture of the spleen. The latter may not always be "spontaneous". Enthusiastic palpation for the spleen is to be avoided, since the pathology in fatal cases indicates this organ has acquired rather unique fragility. A clue to this complication is often an unexpected rise in the white count, chiefly polymorphonuclear cells. Associated with pain and discomfort in the left upper quadrant. As regards the hepatitis, Liebowitz¹ has recently described a patient who developed cirrhosis of the liver, and mentioned that poor diet may have been a factor in the progressive liver pathology. A greater number of individuals have laboratory evidence rather than clinical evidences of liver involvement.

In my opening remarks I mentioned that infectious mononucleosis may be a key hematologic disease. I do not want to be misunderstood in making too close a comparison to leukemia, but there are interesting similarities in hematologic and clinical manifestations. One of the most interesting of all these are lesions of the oropharynx. In fact, mouth lesions are extremely common in many types of blood disease, and we have learned to associate mouth lesions with nutritional disorders, particularly with certain of the water-soluble vitamins and growth stimulants. It is important in hematologic re-

search to bear in mind that what we see as changes in the peripheral blood in disorders of the white cells, may be the results of deficiency of a particular metabolite that has secondarily developed because of selective inhibition or competition by an infectious agent.

This morning we have gained considerable insight to the clinical manifestations of this disease, and are increasingly aware that it involves not only the blood, but the other systems as well. For this reason there must certainly exist overall metabolic effects, and a clear study may elucidate much regarding the disorders of leucocyte metabolism. It is for these reasons, I believe, it may be a key hematological disorder.

I have enjoyed your paper, Dr. Stevens, and I have learned a great deal from it. It has been a privilege to discuss it.

DR. H. O. BELL, Belleville, N. J.: I just want to ask two questions. I notice that in the discussion of infectious mononucleosis Dr. Stevens made the statement that about five per cent of the patients showed clinical neurological manifestations. I should like to know if he has had any experience in doing lumbar punctures on the patients with those manifestations and has found any increased cells and protein in the spinal fluid. We had this experience with one young woman who showed a bilateral facial paralysis and the picture of a Guillain-Barré syndrome with spinal fluid changes and a heterophile agglutination test of about 1-3500.

Another thing—do you find that the blood picture becomes normal in a few weeks, or does it still remain abnormal for many months?

DR. T. DEWEY DAVIS, Richmond: I would like to discuss this excellent paper, illustrating a practical point which might arise. Most of the individuals suffering from infectious mononucleosis are young and a good many are in the marriage age. As you know, a definite number have a temporarily positive Kahn reaction usually of a mild degree. If one of these individuals appears for premarital serological test, it may raise a delicate question as to their marriage and sometimes it will be necessary to invent some excuse for a waiting period if there is a question of the individual being too upset over the questionable finding. After a few weeks or months the blood will probably be negative.

DR. STEVENS, closing the discussion: I should like to thank Dr. James for his excellent discussion.

The neurologic changes in infectious mononucleosis may vary from clinical meningitis to paralyzes as seen in the Guillain-Barré syndrome. Dr. Tidy, of England, among others, believes that infectious mononucleosis may be the etiologic factor in benign lymphocytic choriomeningitis. Hiller and Fox and later others have noted the association of this disease and the Guillain-Barré syndrome. I do not think any of us knows what causes this syndrome, but it is interesting that in some patients neurological changes characteristic of this have occurred, and deaths have been reported.

With reference to the next question, as to how long

(1) Liebowitz, S., and Brody, H.: Cirrhosis of the Liver Following Infectious Mononucleosis. *Am. J. Med.* 8:675, 1950.

the blood stays positive, the heterophil agglutination, I do not believe, can give the true answer. The criteria for diagnosis are, first, the positive blood smear, and, second, the elevated titre for heterophil agglutination. One will not necessarily find persisting cytologic changes in the lymphocytes over a long period of time. That is why, unless one does a careful study a "positive blood picture" is not always found. By the fifteenth day, although lymphocytosis will persist, the lymphocytes may show a more or less normal appearance. Likewise, very often we shall miss the diagnostically elevated heterophil agglutination unless it is done frequently. That is not feasible from a financial standpoint for most patients; so if we are going to pick an optimum time for heterophil agglutination, it is between the ninth and the fifteenth day

of the disease. Most often during this period it will be a "positive" test; at other times negative.

As to Dr. Davis's question about the incidence of serological reactions suggestive of syphilis, there has been much work done on this problem; but I do not know of any conclusive results that have been reached. The findings are temporary, however, and in finding the positive serological test for syphilis I think this possibility should be borne in mind before making a diagnosis of syphilis. The complexity of antibody formation in Infectious Mononucleosis gives rise to nonspecific agglutinins for typhoid, paratyphoid, and brucella organisms. A rise in "cold" agglutinins has also been noted. The mechanism for such occurrences remains a debatable subject.

I am sorry I cannot give more information in answer to the question.

New Sulfone Drug Used to Treat Skin Disease.

Diasone (trademark), one of the newer sulfone compounds, has been used successfully in the treatment of dermatitis herpetiformis, a fairly common, serious, chronic skin inflammation, it was reported in the Archives of Dermatology and Syphilology. Thirteen patients with the affliction improved decidedly or had complete remissions while taking the drug, according to Dr. Theodore Cornbleet, a Chicago dermatologist and professor of dermatology at the University of Illinois College of Medicine. Dr. Cornbleet stressed, however, that the drug was not a cure.

Until the advent of sulfa compounds and antibiotics, dermatitis herpetiformis was considered relatively uncontrollable. The cause of the disease is unknown, but because of the effectiveness of these drugs,

it is believed that the disease is the result of an infection somewhere in the body, he said.

The treatment of those suffering from the affliction was begun with small doses of the drug to prevent toxic side effects. If no symptoms of intolerance appeared, the dosage was increased gradually to three or four tablets of 0.3 grams a day. Dosage of at least two tablets a day was found necessary for improvement.

The period of time the patients remained on diasone ranged from three months to two and one-half years. The report pointed out that relief was received only so long as the drug was used.

Dr. Cornbleet stressed the fact that the drug should not be used unless the physician has the opportunity to keep the patient under observation in event of toxicity.

WHAT IS THE ROLE OF THE NON-PSYCHIATRIC PHYSICIAN IN THE MANAGEMENT OF EMOTIONAL STRESS?

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The psychologic implications of a therapeutic procedure may play an important role in the response of the patient's illness. Those patients, in whom the functional impairment of an organ or the total organism is in part due to deviations from "normal" mental health, require procedures more specifically directed towards an understanding and attenuation of these deviations. The problem of *if* and *how* this can be accomplished is a question of prime importance facing the general physician. It may be that the opinions of an internist who has spent some months in psychiatric study could help to delineate some of the obstacles to be overcome in bringing about a closer union between psychiatric and general medical thinking.

It might seem that the correlation of medical and psychiatric practice would be brought to focus in the realm of psychosomatic medicine. The term alone denotes a union of the two disciplines, and the type of research utilized by investigators in this field is directed towards elucidation of the influence of altered emotional states on the function of various organs and metabolic complexes. Since the ultimate application in medical practice of the information derived from these studies depends upon an understanding of their value, it behooves one to examine this research and formulate opinions. As an example of psychosomatic research, let us take the series of articles on peptic ulcer in the excellent, A.R.N.M.D. book, *Life, Stress and Bodily Disease*¹.

The objective evidence in these and other papers, collected by ingenious physiologic methods under varying degrees and types of psychologic stress, is most impressive. It leaves no doubt that emotional responses to stressful stimuli are accompanied by changes in end-organ function. The findings of Margolin and his associates and Mirsky *et al*, are of particular interest since they strongly suggest that conscious manifestations of feeling, such as rage, guilt, resentment, etc., cannot be taken at face value.

They contend that the interpretation of the physiologic response of the stomach to noxious stimuli must include a study of the unconscious meaning of the stimulus, that is, psychoanalysis. They do not believe, as the non-analytic investigators, that simply knowing the patient and how he handles stressful phenomena warrants acceptance of his expressed "feeling state" as indicative of his true emotional response to the stimulus. Margolin *et al* found the gastric response to the same stimulus different, depending in part upon the patient's awareness of the repressed meaning of the stimulus. This was despite the fact that objective behavior and the verbalization of the patient as to how she felt were similar during different phases of the experiment.

Such findings imply incompleteness of previous psychosomatic experiments concerning the association of specific emotional patterns with changes in gastric function. They further have disturbing implications as to the validity of conclusions drawn from many types of human experimentation. However, the fact that psychoanalysis is inherently individual and highly personalized renders difficult the acceptance of data obtained by this method as objectively valid and verifiable. Certainly the findings of psychoanalysis would be less open to criticism by other investigators if, for this type of experimentation, methods could be devised to satisfy the demands for controlled and checked data.

The differences between these two schools of thought have been discussed in some detail because they point up the difficulty which confronts the general physician in assessing the clinical usefulness of the findings of psychosomatic research. They high-light confusion as to where he fits in.

It can be hoped that the continued compilation of more and more correlative data as to cause and effect will allow a gradual resolution of this problem. At this time such a goal is so distant as to be almost invisible. To date, "specific" measures available to the general physician are limited to medical or surgical interruptive procedures in the chain of neuronal events between the cerebrum and end-or-

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gan, e.g., autonomic blocking agents, vagotomy, sympathectomy, etc. Such procedures, although highly adjunctive and palliative in some cases, certainly do not approach the ideal of definitive therapy. Also, their role is greatly restricted in scope, they cannot be used preventatively and the improvement does not always outweigh the complications. The implications of hormonal therapy, such as ACTH and cortisone, remain to be evaluated. As yet, they are empirical and non-specific, though occasionally highly effective agents in some psychosomatic diseases.

Psychotherapy is a logical approach to the bulk of those patients whose illness is mainly due to emotional disturbances.

The question then follows, does preconceived understanding of the psycho-dynamic development of such disease as duodenal ulcer lead to therapeutic technics that are more effective and more rational than those already used by the average physician, and briefer than those used by the psychoanalyst? This is an all-important question concerning which there are many pros and cons. For example, if it were established that all patients with duodenal ulcer within a specified personality and physiologic category as to age, sex, duration of symptoms, gastric secretion and motility, body type, parental, family and sibling relationships, psychometric pattern, etc., if it were established that all people in such a category had repressed need to be fed with dependence and love by a rejecting mother (or symbolically breast fed), which wish was being repressed because of fears of retaliation by a protective wife and loss of status, thus leading to a state of constant gastric hyperactivity, would a short cut in interpretive psychotherapy then be possible in this group of patients?

From what some psychoanalysts tell us, it would not. Even if the analyst collects enough evidence to make a correct interpretation in a particular case it may be many months before the patient has "worked through" the interpretation and has benefited by same. Thus, Fenichel² writes: "It has been asked why we (the analysts) cannot, in order to shorten analysis, make use of advances in the special theory of neuroses which enable us to recognize at once from the diagnosis the typical instinctual conflict from which the patient is suffering. The desire is to make the analyst's knowledge immediately utilizable in practice by means of early interpretation of

the determining conflicts. *But that is impossible.** First, what is necessary is the recognition not of 'the Oedipus complex' but of the unique origin and form of a particular Oedipus complex."

Fenichel was speaking here of neuroses. Many psychiatrists feel that the psychologic mechanisms involved in psychosomatic diseases are even more difficult to use analytically. Many are hesitant to even attempt interpretive psychotherapy in these patients. However, this gloomy acceptance of orthodox psychoanalysis as the only rational, proven psychotherapeutic approach is certainly not shared by all analysts. There are those such as Alexander, French, Deutsch, Cobb, Finesinger, Romano, Diethelm and others, who do not believe that complete psychoanalytic comprehension by the patient of unconscious forces is always mandatory to relief of his symptoms, at least to a degree which enables him to function usefully and without marked disability. These men have developed technics of psychotherapy which, though based upon psychoanalytic theory, are more rapidly applied because the therapist does not endeavor to attain the "ideal" of enabling the patient to completely unburden himself from the oppressive weight of unconscious conflicts, complexes and tensions. Rather, these investigators seem to aim for the more limited goal of attenuating the effect of those particular repressed forces which are relevant to disabling symptoms.

The attenuation may be effected in several ways, for example: (1) by limited insight into the unconscious meaning of the particular organ dysfunction or symptom complex; (2) by a better understanding of the precipitating factors in the patient's environment which intensify the repressed conflict and hence the symptoms, and clarification with the patient as to why these factors are precipitating; (3) if necessary, the alteration of environmental influences, directly through the patient or indirectly (as through a social worker), with or without awareness by the patient of the meaning of the alteration, (Note the work of Dr. Erich Lindeman;^{3,4} (4) if other measures are for some reason unfeasible, by simple encouragement and reassurance with the realization that the symptoms will not be improved but with the aim of making it more endurable for the patient to live with his symptoms. This latter more restricted approach is similar to that frequently

*Italics mine.

used by the general physician.

These therapeutic concepts are not so far removed from those that are used in the management of some medical or surgical conditions. For example, if an internist is confronted by a patient with diabetes mellitus, he follows a definite plan of action. First, he formulates in his own mind the salient features of the particular case: the patient's age, general condition, the severity of the disease and the number of diabetic complications present, the financial and social status of the patient, his intelligence and *willingness* to cooperate, his *ability* to cooperate, depending upon his responsibilities, etc. The doctor then informs the patient, because the patient's cooperation is mandatory for the fulfillment of good therapy. How much the doctor informs him of the meaning of the symptoms, the prognosis, the possible complications, etc., depends upon all the aforementioned factors. Although the more intelligent insight and cooperative spirit the average diabetic has the better, the doctor's management is not governed entirely by these factors. The doctor may desire first to have an obese patient lose fifty pounds in weight before he begins insulin. The patient may lose the weight, require no further therapy and thus fulfill the ideal of treatment. On the other hand, he may not and may require large amounts of insulin and be poorly controlled in spite of the doctor's best efforts. He may then investigate and change the environmental factors involved, which have been shown so clearly to influence carbohydrate metabolism^{5,6}. His methods may be similar to those used by the psychiatrist, and if all these measures fail, he may be forced to resort entirely to encouragement, reassurance and other forms of support. The important thing is that the physician is willing to continue to treat the patient over a long period of time although he knows he cannot promote a cure, or even a great improvement. He is grateful for the fact that he can at least do *something* for the patient. The same philosophy should be present in the management of patients with a greater share of emotional disturbance.

There is, however, difficulty in making an acceptable analogy between the management of patients with a preponderance of their symptoms on an emotional basis and those with a more clearly delineated medical or surgical disease, since the general physician's understanding of what he is able to do, when and how to do it, is so ill-defined in the former. He

can legitimately point out that those men noted above, who successfully apply a briefer form of limited psychotherapy, are highly trained specialists with wide psychiatric experience. It is reasonable to ask, and desirable for the psychiatrist to answer, whether the proper use of such measures can be carried out by those not included in their category. It may be that the beneficial effect of such technics requires even more psychiatric knowledge than psychoanalysis, and the problem of selecting those patients who will be approached by one or another technic is perhaps even more abstruse. On the other hand, it is conceivable that the "intuitive" knowledge of the experienced physician might be admirably suited for such types of therapy if it were clarified and encouraged.

These, then, are some of the imponderables which face the physician who is interested in psychiatric thought and investigation. He has been repeatedly informed by psychiatrists that he is neglecting the "total patient" unless he takes into account the emotional life of the patient. He is greatly impressed by the power of "psychic influences" and "emotional stress". He is shown that they can ravage the integrity of the organism, leading to ulcerated stomachs and bowels, hypertension and cardiovascular disease, asthmatic lungs and serious collagen disorders. It is small wonder, therefore, that he feels frustrated when he tries to learn what he should do and encounters some of the many divergences of opinion and results such as that cited.

If he is unusually charitable, he will not develop resistance to following the progress of psychiatric and psychosomatic research and will continue to hope for clarification. He will appreciate that in this field of investigation the application of research technics useful in other fields is infinitely more complex and the pitfalls in the path of data interpretation proportionately greater. However, he cannot help but judge, from the complexity of human personality and the innumerable ramifications of modern man's emotional life, that it will take not years but decades to bring to the practitioner specific and economic measures he can use. Until then, what does he do?

As has been stated, there is a great deal of knowledge that may directly apply to the role of the average physician in the management of emotional disorders. Furthermore, it appears true that, given the time, the advice of a good psychiatric teacher and the

inclination, the average physician is capable of quite effective psychotherapy. The fact that these forms of psychotherapy are limited in their goal, however, does not mean that they can be applied indiscriminately or unselectively. The realization of what he is doing to the patient is implicit in the doctor's management of any illness. He must be aware of the patient's deficiencies and assets, have a working concept of the psychodynamics involved, and the probable nature of the relationship which will develop between the patient and him. He must have some ability to judge which patients will not be helped, perhaps hurt, by psychotherapy that he can give. These are not small requirements. How they can be acquired by the average physician and if he should apply them would seem questions of crucial importance to psychiatric teaching. There are several projects directed towards this goal which are commendable. For example, the University of Minnesota project,⁷ undertaken by the Commonwealth Fund in 1947, endeavored to bring a comprehensive, rational and interesting approach to the practicing physicians of that area. It was not the aim of the project to make all these men psychiatrists or to curtail their practice in other spheres of medical science. Rather, it aimed at filling the gap in the physician's ability to cope with the emotional problems of patients he saw in everyday practice. The physicians were very conscious of this gap and welcomed the opportunity of increasing their therapeutic acumen. Another interesting project, primarily for students and medical house officers, is that reported by Saslow at the Washington University School of Medicine⁸.

As has been pointed out, there is ground for the development of resistance in the average physician to psychotherapeutic endeavors. Not only is he in doubt as to what can be done and how to do it, but he senses the ambivalence of the psychiatrists concerning whether he should or should not attempt psychiatrically oriented therapy in the first place. The psychiatrist's circuitous approach to this issue sometimes seems to reflect his own resistance. To enter the argument of whether or not psychoanalytic concepts should be employed by non-analysts is beyond the scope of this paper. The author is aware that strong feelings exist against such usage. He believes the facts are self-evident, however, that all doctors perform psychotherapy, whether or not it is oriented as such, and that the sick patient in whom the emo-

tional disturbance is a factor is entitled to some attempt at rational management in this direction. Therefore, if psychoanalytic concepts are valid, they *will* be applied in one method or another. It would be preferable to have them used to the patient's advantage.

It might be profitable to examine more closely this resistance on the part of the general physician. What forms does it take and what are the steps in its evolution which might be subject to change before the defense mechanisms have become so strong that they are held very dear to the physician and can only be removed with great difficulty, if at all? The internist, for example, encounters patients daily in whom he senses a large emotional factor. All too often he feels damned if he admits the recognition and damned if he does not. It might occur to him to try to handle the patient himself; it more probably occurs to him that he needs the help of a psychiatrist. He is aware of the marked limitations on psychiatric treatment hours available. He has seen many psychosomatic and other patients who have been exposed to hurried, unskilled psychotherapy, and he is skeptical of what can be done.

His attitude towards psychotherapy in such cases will probably follow one of two directions:

1. He closes his mind entirely to the importance of the emotional life of the patient, beyond the most blatant reality problems. He exhorts his friends and patients not to believe any of that stuff the psychiatrists say and that all one has to do is use his common sense. He slaps the patient on his back, commands him to "buck up" and face things courageously. By simple reassurance and devaluation of the importance of emotional conflicts he satisfies, undoubtedly, a certain percentage of his patients—at least temporarily. (If he did not, he would go out of business since 60-80% of his practice is wholly or in part psychiatric.) Therefore, there is nothing fundamentally wrong with how he helps his patients, except that he is unaware of the mechanisms whereby he helped them and does a disservice to the good name of psychiatry in so doing. There is, however, something fundamentally wrong with the way he handles those patients whom he does not help by this method. The wrong is that he further strengthens the resistance defenses of the neurotic or pre-psychotic patient by making even more unacceptable the thought of seeking psychiatric help. This may

prevent the patient from so doing until he is past the phase when he could be reasonably benefited by psychotherapy.

Fortunately this type of attitude seems to be less in evidence, though it is still commonly seen. It is not relegated to the older generation of doctors, a point which is expounded hopefully in discussions of this topic. This viewpoint is encountered daily in the younger medical generation from many different medical schools.* Its widespread presence represents a failure in psychiatric and medical teaching.

2. There is another attitude which may develop; one which is even more understandable and deplorable. The physician intelligently recognizes the prevalence and importance of the emotional life of his patients. He is able, without much difficulty, to segregate the profoundly neurotic or pre-psychotic individuals and refer them quickly to the psychiatrist for disposition. He is aware of conditions in a large group of his patients which would best be dealt with by a skilled psychotherapist, but this is prevented by the marked disproportion between the number of patients and the number of psychiatric treatment hours (not to mention prohibitive expense). However, aware that *something* must be done, he endeavors to investigate the emotional factors involved as adequately as possible under the limits of time and the patient's cooperation. What then happens? First of all, the patient may improve to a certain extent. (Although I am not aware of any statistics on this very important point, it may be that the percentage of improvement approaches that of psychiatric psychotherapy.) On the other hand, any number of disconcerting events may occur, such as a precipitation of acting out in the transference or heightened anxiety because of removal of some repression mechanism allowing awareness of socially unacceptable drives. The physician will probably become panicky himself at this point, reject the patient and find the whole process intolerable. It is unlikely that the physician will be eager to undertake such a maneuver again, and, consequently, he regresses to an attitude similar to #1. The psychiatrist who then receives the acutely ill patient is quite likely to consider the physician's handling of the case ill-advised and to piously denounce the dangers of amateur psychiatrists. Thus, everyone is unhappy,

and the rift widens between two systems of therapy which should not exist independently.

It is precisely at this point that much could be accomplished if liaison were better. The psychiatrist could show the practitioner that such a reaction on the part of the patient might have been expected because such and such took place. He could explain how such behavior need not mean therapy was failing but was an indication of the effectiveness of the doctor-patient relationship. He might point out how the physician could proceed to handle the situation and advise him as to the best level to keep his interviews. In this way, it is possible that a potentially worthwhile therapeutic situation could be saved, thus saving the patient much time and money, saving the psychiatrist a difficult therapeutic problem because of the broken relationship, and, most important, saving the physician's self-confidence and interest. Of course, the psychiatrist might decide that the illness was serious enough to require more intensive therapy, in which event he would either take over treatment or help the physician dispose of the case. In either circumstance, the psychiatrist should act primarily as an advisory consultant, bearing in mind first the problem as it relates to the patient and his therapist.

The development of these resistant attitudes on the part of the non-psychiatric physician certainly does not serve the best interest of the patient or of medicine. Where the fault lies is relatively immaterial to improvement of conditions. As in any controversy, there are many cases-in-point on both sides. Nevertheless, it is primarily the responsibility of psychiatry to take the initiative in bringing about better understanding and cooperation. If psychiatrists are motivated to improve the mental welfare of the patient population, they must accept the fact that, because of the tremendous scope of the problems, any really significant step forward must be brought to the patient largely by the general medical personnel. How else can improvement in the management of common psychiatric conditions seen in everyday practice be brought about? As Dr. C. C. Burlingame has expressed it¹⁰: "I am certain that most preventive psychiatry is, or will come to be, practiced by men in the other branches of medicine. It is they who have the opportunity to prevent psychiatric conditions so far as they are preventable."

In many teaching institutions, with some notable exceptions, the teaching of psychiatry is relegated

*Note the interesting study from Duke University Medical School.⁹

to the psychiatric department exclusively. The members of other departments are for the most part subject to an attitude similar to the ones described. Yet, these men (the surgeons, pediatricians, internists, radiologists, etc.) are the ones most readily accepted by the students as examples of the clinician with the knowledge to expedite healing in dramatic fashion. It is understandable that the ambitious and uncertain student should identify with the interests of these leaders. In doing so, however, he readily senses the uneasiness of his mentor concerning patients with psychiatric conditions. It is also apparent to the student that most of his instructors present a unified front of resistance to the routine of the psychiatric staff. This resistance may vary from blatant derision and obstruction to verbalizations of the importance of emotional aspects of disease unaccompanied by appropriate clinical management of such. No matter how veiled the resistance, the student perceives it. A few are not influenced by it, and a very few align themselves militantly with the psychiatrists, thus neglecting their study of other medical disciplines. Most react in a way similar to their mentors; that is, by rejection of patients with neuroses and a passionate preoccupation with discovering "organic disease" in all patients, even if what they discover is not significant. One hears on any ward or clinic such remarks as: "The more we study this patient without finding anything, the more I'm convinced he's just another crock". Such rejection of the patient is not necessarily out of malice, but results from fear—fear that the student or doctor does not know what to do with an emotionally disturbed patient and consequently will not be able to help him. Such a realization represents a threat to his assurance of his medical ability and consequently must be repressed. This results in rejection and refusal to admit that the patient has a legitimate complaint that warrants medical recognition.

This rejection, fomented in the student by the neurotic symptoms of the patient, may deter, paradoxically, the discovery of the wished-for structural lesion which also may be present. The young doctor feels under considerable pressure by his colleagues not to miss "organic disease". Certainly highest value should be placed upon accurate diagnosis, but, because of the pressure he is under, the student often feels obligated to slot patients in one of two categories—"organic" or "functional" by a process of diag-

nostic *reductio ad absurdum*. The pressure would be vitiated if he were taught to treat the patient as he is, without emotional bias, keeping his mind open to any worthwhile lead to diagnosis and realizing that even the best clinician occasionally makes a mistake in diagnosis. The fruitlessness of always distinguishing between "organic" and "functional" disturbances where it makes very little difference to the patient's distress has been pointed out many times. The subject is discussed graphically by Dr. Stanley Cobb in his book, *Foundations of Neuropsychiatry*.¹¹

When such conditions exist in a medical school, the psychiatric staff, no matter how adequate as teachers, has a difficult task in dispelling these attitudes from the student's mind. Obviously, corrective measures must be directed towards the general medical staff as well as towards the student. Establishment of a good relationship of cooperation, understanding and mutual respect between the psychiatric staff and the members of other specialty groups would represent the biggest step in improvement of the student's ability to confront emotional illness. Such a cooperative relationship must go beyond the "lip service" level and be carried over into the practice of clinical medicine and investigation. The dispelling of the student's fear of involvement in the emotional aspects of an illness, the fostering of respect for the psychiatrist's aims, the incorporation of the psychiatric staff in the management and study of clinical problems on an equal basis, all go a long way towards encouraging the prospective doctor to take an interest in the total patient and to treat him accordingly, rather than merely espousing an interest in psychosomatic medicine. Once interested in the subject, he would rapidly learn to know what he can and cannot do for the patient, what a psychiatrist can and cannot do, when it is better to leave well enough alone, etc. Most psychiatrists will state that such knowledge cannot be learned by didactic teaching of any sort, but must be learned by experience. If this is so, and it seems so, then every effort should be made to encourage the experience for every interested doctor.

Thus, there should be more encouragement of physicians in their attempt at psychotherapy, no matter how crude. The psychiatrist should be more available as a consultant, not necessarily for the disposition of a case, but in the true medical sense: as an

advisor to the physician to aid him in handling the case. The argument that psychiatry does not have enough time to function in this capacity should not continue to serve as a rationalization for not doing so. It is possible that by greater dispersion of the psychotherapeutic effort the psychiatrist would have more time to serve as an advisor, teacher and consultant. This function of the psychiatrist presupposes a willingness by the physician to give psychotherapy. It should not be expected, nor desired, that the psychiatrist take over the therapy of every neurotic symptom about which he is consulted. Only those cases which he deems so serious as to be beyond the limitations of psychotherapy offered by the physician should be taken over for treatment or disposition. This is the working arrangement for other consulting specialties, and it should be further explored by psychiatry. Only by enabling the physician to gain experience and confidence in dealing with emotional problems *in vivo* will the quality of his therapy and judgment be improved. Only then will liaison be truly bipartisan.

It would happen, no doubt, that many mistakes would be made by the physician and that many patients would seem temporarily worse. Some psychotic breakdowns would be precipitated. In learning the clinical application of any discipline a certain amount of suffering must be endured by the therapist as well as by the patient. But the increasing experience and ability of the physician would ultimately enable him to help a far greater segment of emotional disorders. The effect on the adequacy of medicine to cope with this huge problem would be greatly augmented. An improvement in medical education, because of the better understanding by the non-psychiatric specialties, would follow. I believe it is generally true that physicians of every specialty and type are eager to utilize to the advantage of the patient any established therapeutic measure. Unfortunately, the majority of patients have some neurotic aspects in their disease and are not receiving adequate treatment. The extent of psychiatric knowledge is far from ideal, and the applicability of what is available is often difficult. Nevertheless, the utilization of psychiatric principles to the fullest extent possible by a large segment of the medical profession would represent a major advance in the success of medical practice and preventive psychiatry. This should be a major aim of psychiatric research; i.e.,

to discover methods of building cooperation with other members of the profession, to make available to all who ask for it guidance at a practical, consulting level, to encourage the use of logical, understandable technics by the average physician, and to remove some of the cloak of danger which to the average physician surrounds the recognition and management of emotional disorders. Psychosomatic research up to the present has been concerned chiefly with proving by objective, physiologic experimentation the profound effect that emotional stress exerts on organ function. The data are most convincing, and prior to this orthodox psychoanalytic investigation had formulated the scientific basis of psychotherapy. It now seems mandatory that psychosomatics and psychoanalysis shift from the laboratory or analytic couch, where they have evolved broad, pathogenetic relationships, into the realm of demonstrating clinically the value and flexibility of their principles in the practice of medicine by the general medical profession. The fact exists that in order to have any measure applied therapeutically, the doctor first must be willing to apply it; second, must know how and when to apply it; and, third, must know what the expected good results and possible ill effects may be. The average doctor has a very foggy notion of any of these conditions with regard to many sound measures presently available. He can hardly be expected to use with interest and judgment measures of the future developed from psychiatric research. This, then, would seem a most important area for psychiatry and psychosomatic medicine to concentrate effort.

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PAUL PORTAL

Portal, Paul, d.1703. La pratique des accouchemens soutenue d'un grand nombre d'observations composée par Paul Portal, Maître Chirurgien Juré n.d.

This is the second part of *La bibliothèque des accoucheurs et des sages-femmes*, published in Geneva, 1693. The other parts of this work are Mauriceau's *Traité des maladies des femmes grosses*, & de celles nouvellement, accouchées, and a Dissertation curieuse sur la generation, & la nutrition du fœtus la matrice suivant l'opinion des Modernes.

In the preface of the combined work it is stated that Portal's observations seemed to have been made especially so as to make Mauriceau's *Traité* a complete work. It seems a plausible assumption that thus combining the two works may have influenced Mauriceau to publish his own Observations which he did in 1695.

My copy has the original binding. The Miller Library has the same work without the text of the *Traité* but with the illustrations scattered through the text of Portal's *Practique*. It has the preface to the three parts of the *Bibliothèque* as well as the title page. The binding is old but is not the original binding. It seems likely that the text of the Mauriceau part was lost and the binder put the illustrations where he thought they belonged. The Miller Library has the original Paris ed. 1685, a Dutch ed. 1690 and an English ed. 1753.

Cumston (*Am. J. Obst.* **51**:778, 1905) says that Portal was born in Montpellier about 1630, for he entered the Hôtel-Dieu in 1650 and students there were required to be over 18 years of age. He attended Mauriceau's lectures for 13 years. Cumston gives a good description of this famous Paris hospital as it was about this time. The patients were crowded together 4 to 6 in a bed. There was no attempt to separate the pregnant women from those who had been delivered. Only the syphilitic or "spoilt" women, as they were called, were isolated. The midwife was not allowed to attend these. In cases of difficult labor the midwife called upon the master surgeon or, in case of his absence, upon his first companion surgeon. In 1659 Portal was designated to deliver the "spoilt" women and he was also chief of the companions. In 1663, his 6 years' service being up, he left the hospital a master surgeon.

Portal is justly esteemed for his practical knowledge. He taught that version can be done by one foot and that face presentations usually run a normal course. James Pratt Marr (*Bull. Hist. Med.* **9**:258, 1941) says that Portal was the first to recognize the true nature of placenta previa (observations 2,29,39,41,51,55,43, 70). Whereas Paré, Guillemeau, and Mauriceau recognized placenta previa, they thought that it was due to a prolapse of the organ from a higher attachment.

M.P.R.

MEDIASTINAL TUMORS: ROENTGEN DIAGNOSIS

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If one considers the mediastinum to lie between the right and left pleurae in and near the sagittal plane of the chest and to extend from the sternum in front to the vertebral column behind, we can begin anteriorly to consider the roentgen problems encountered in the diagnosis of obscure masses of this region.

A pulsating mass with bone destruction in the whole of the gladiolus of the sternum in a middle aged negro laborer most certainly would incite clinical considerations of an aneurysm eroding through the anterior chest wall. Our first case, however, showed osteolysis with only slight encroachment on the anterior mediastinal space for a matter of millimeters. The clinical diagnosis was liposarcoma, the roentgen impression primary osteolytic sarcoma, and, following surgical excision, the pathological diagnosis was metastatic hypernephroma. The case was closed with the demonstration of a left renal hypernephroma and the appearance of multiple metastatic nodules in both lungs soon after the operative procedure.

Hypertrophy of the thymus in infants deserves for diagnosis postero-anterior films at 6 foot target-film distance, and also direct lateral views with the arms held posteriorly so that the trachea and its surrounding tissues are clearly demonstrated. Fluoroscopy at all phases of respiration should supplement the film examination. If definite narrowing, kinking or buckling of the trachea and an anterior mediastinal mass are demonstrated in an infant, from one to three doses of 100 r of moderate voltage roentgen therapy should produce regression in the mass within a few weeks. Our plea is to give the radiation therapy an opportunity to diminish the radiosensitive thymus. On two occasions recently thoracic surgeons have been anxious to perform thoracotomy with consideration of thymectomy before the small doses purposely employed in tiny growing children have had an opportunity to show its effect on serial roentgenograms.

Malignant tumors of the thymus, both epithelial, mesenchymal and mixed are discussed in the literature under terms such as thymoma, lymphoma, Hodgkin's disease and so on with varying opinions con-

cerning their response to radiation.

The first case, a carcinoma of the thymus of resistant type is illustrated by a series of films over a 5 month period with no response to roentgen therapy even after partial removal of the tumor and the application of doses of 1,000 r to the tumor through an operative wound anteriorly.

The second case, a mesenchymal tumor of massive proportions showed a theatrical immediate response, so that the second film shows as narrow an upper mediastinal shadow as one could theorize to exist in an adult.

The third case, a mixed tumor of the thymus, of epithelial and mesenchymal elements, as described by Eisenberg and Sahyoun,¹ showed slow but progressive response—in other words, a moderately sensitive tumor.

Roentgenologically, substernal extensions of the thyroid and all sorts of intrathoracic thyroid masses are frequently most difficult to diagnose, all the thoracic surgeons in the world to the contrary notwithstanding. There is too much quibbling over definitions of "substernal" and "intrathoracic". There is too much reliance on the newer methods with tracer doses of radioactive iodine and topographical Geiger counts in 24 hour periods, which may sometimes be of value. I have had postero-anterior and direct lateral projections and fluoroscopic findings identical in an aneurysm of the transverse aorta and in an intrathoracic thyroid. This is not surprising to me as I have seen a thoroughly trained and experienced thoracic surgeon inspect, palpate, dissect around and biopsy a profusely bleeding thyroid without his being sure of its nature until receiving the frozen section pathological report. At least half of several series of intrathoracic thyroids show them to be posterior to the trachea.²

The classification and radiation response in the various malignant lymphomas have been touched upon by us with others³ elsewhere. Various lymphosarcomas may show rapid response in from one to eight days following deep roentgen therapy in doses from 200 to 600 r and complete regression of masses with the latter dose up to 1200 r is common in our

experience. Hodgkin's disease will respond more slowly but may well disappear locally with similar dosage.⁴

Primary sympathoblastoma⁵ and metastatic sympathoblastoma⁶ may be found in the mediastinum and not necessarily well posterior, as best illustrated by the mid-mediastinal mass of the case of a young man in severe respiratory failure with pressure below the carina narrowing both bronchi and trachea.

Plexiform hemangiomas may simulate the lymphomas in the mediastinum. A case in point is that of a young girl with respiratory distress who responded to 10 deep roentgen treatments of 200 r each. Following 2,000 r surgical extirpation of all the tumor was attempted but 2,000 r more radiation was given as all the mass could not be removed. The first pathological diagnosis had been Hodgkin's disease of the thymus, but a second opinion failed to agree on the nature of the tissue, on many of the cells involved in the diagnosis, or in the benignancy or malignancy of the tumor. A leukemoid or leukemic blood picture developed before the terminal event.

Teratomas containing teeth, bone and various mixtures of fundamental tissues more commonly are found in the anterior mediastinum and more often on the right side. One of our cases appeared to originate more in the right middle lobe than in the mediastinum. The cystic appearance, position anteriorly in the chest, lobulated margins and tooth within the mass made the roentgen appearance fairly typical.

Dermoid cysts may radiologically simulate pericardial celomic cysts so completely that the films of a case of each entity when placed side by side in x-ray viewing boxes cannot be differentiated. The cysts are lobulated with convex densities to the right and anteriorly merging with the cardiac shadow and of the same radiographic density as the heart.

Rhabdomyosarcomas of the heart are associated with pericardial effusions. If only a small amount of bloody pericardial fluid can be obtained by tapping and air introduced into the sac fails to surround the heart adequately and outlines masses continuous with the heart, a tumor may be suspected. I have seen three such cases in 25 years, proven with adequate pathological specimens.

Bronchogenic cysts occur in the upper paratracheal region and in postero-anterior views may lie close

to the mediastinum so that in one of our cases the ovoid mass resembled a group of tuberculous mediastinal nodes. The lateral view showed the dense well circumscribed mass to be in the posterior segment of the right upper lobe closely associated with and narrowing the adjacent bronchus.

Carcinoma of the esophagus seldom can be visualized on plain chest films but the metastases may exactly simulate a substernal extension of the thyroid and be large enough to exert pressure on the esophagus and trachea above to prevent diagnostic esophagoscopy and bronchoscopy. There was also pressure on the recurrent laryngeal nerve producing hoarseness.

Benign tumors of the esophagus such as leiomyomas can be large enough to give mediastinal densities and well made roentgenograms but barium in the esophagus is usually necessary for adequate demonstration.

An echinococcus cyst may show an oval mass merging with the upper mediastinal shadow and fill the apical region of the thorax exactly like a carcinoma of the lung or any other superior pulmonary sulcus tumor as described by Pancoast. The geographic and occupational data showing the patient to be an Australian sheep herder with a positive Casoni test can prove to be of more importance in diagnosis than mere roentgenograms.

Multiple saccular aneurysms of the thoracic aorta give bilateral lobulated densities along the central mediastinal shadow which can frequently mimic malignant lymphomas in all views with and without a barium filled esophagus. We have described these elsewhere⁷.

Enormous aneurysms, especially of the descending thoracic aorta, can so fill the thoracic cavity that they may simulate cysts. I have in mind a case where a 70% diodrast injection in the median basilic vein with films failed to fill the aneurysm because of enormous clot and bronchograms failed to aid in diagnosis. A roentgenogram made seven years previously was much more helpful in showing the sac of the aneurysm when it was small in size and well delineated. Films of the ribs and spine for bone detail do help tremendously in demonstrating the erosions of pulsating masses.

Diaphragmatic hernias, more especially through the foramina of Morgagni or Bochdaleck can make mediastinal diagnosis difficult unless barium meal

and enema studies and various positions are utilized to their fullest.

Primary and metastatic malignant tumors, solitary and multiple, have been discussed elsewhere^{8,9} and pose many problems as yet unsolved. Multiple neurilemmoma riddling both lungs and mediastinum can exactly mimic malignant metastatic tumors. They need not be posterior in position although several ganglioneuromas in our series were single, apical and posterior. Thinning and erosion of adjacent ribs does sometimes occur.

A large nodular chondrosarcoma arising from the right side of the ninth dorsal vertebral body looked exactly like a single metastatic malignant nodule on a postero-anterior chest roentgenogram. Lateral views showed it to arise from the vertebral body and lipiodol in the spinal canal showed a complete block at the level of the tumor. I have seen giant cell tumors and Ewing tumors simulate this particular case.

Finally, I can show a postero-anterior chest film which shows a rounded upper left mediastinal appearing mass 3 cm. in diameter which formed the basis for a 100 mile trip to Richmond to consult a thoracic surgeon. A lateral view was then made and it shows the mass to be on the posterior chest wall pushing the skin posteriorly from the normal contour of the body—a benign lipoma which could be found by the older time-honored physical diag-

nostic methods of inspection and palpation and treated by simple excision biopsy.

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MUMPS MENINGOENCEPHALITIS*

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The threefold purpose of this paper is, first, to survey briefly the literature on mumps meningoencephalitis; second, to report and analyze 57 new cases of this disease admitted to the Medical College of Virginia Hospitals between January, 1943, and March, 1951; and, third, to discuss briefly the modern methods of diagnosis of this disease. This is felt to be worthwhile since it emphasizes certain problems faced in the differential diagnosis between mumps meningoencephalitis and non-paralytic poliomyelitis.

One of the first clinical descriptions of meningoencephalitis associated with infectious parotitis was made by Monro¹ in 1883. Maximovitch² in 1880 was the first to describe the pathology of this disease in patients dying during convulsions with parotitis. Monod³ in 1902 was the first to demonstrate the occurrence of lymphocytosis of the spinal fluid in mumps meningoencephalitis and also even in cases of mumps where there was no clinical evidence of meningitis. Following the introduction of the lumbar puncture as a tool of diagnosis, there have been numerous case reports of this disease showing pleocytosis of the spinal fluid. A brief incomplete survey of the English literature since 1915 reveals at least 704 cases of this disease have been reported.

The two most tenable theories explaining the etiology of central nervous system involvement in mumps are: first, that the disease is due to involvement of the central nervous system by the mumps virus itself;⁴ and, second, that an unknown latent neurotropic virus is activated in the central nervous system by the more or less benign mumps virus⁵. However, today, the first theory is generally accepted since the mumps virus has been isolated in this disease from the spinal fluid and saliva of patients with and without apparent parotitis^{6,7}. Also Gordon⁸ has produced a meningoencephalitis with corroborating pathological changes in monkeys by injecting intracerebrally a filtrate of gargle from an ordinary

case of mumps. Montgomery⁴ feels the mumps virus is a systemic virus which has a predilection for the salivary glands, meninges, brain, pancreas and mature gonads.

Donohue⁹ has best described the pathology of mumps meningoencephalitis. He concluded that the pathological picture was somewhat varied. The brain and the cord may show only congestion. Meningeal infiltration may vary from a few lymphocytes to gross exudate. He also described perivascular infiltration with lymphocytes, perivascular demyelination and neuroglial reaction.

The incidence of central nervous system involvement in mumps varies greatly in the literature. Eagles¹⁰ found an incidence of 2.6% in 1,664 cases of clinical mumps, while Bang¹¹ reported an incidence of 23.1% in 458 cases of mumps.

The prognosis in mumps meningoencephalitis is generally considered good. The common complication is eighth nerve deafness¹². It has been estimated that mumps has caused deafness in 5% of the institutionalized deaf in this country¹³. Other less frequent residual complications are: optic neuritis¹⁴, ocular palsy¹⁵, hemiplegia¹⁶, transverse myelitis¹⁷, and minor mental changes¹⁸.

Mumps meningoencephalitis may occur before, during, after, or even without parotid swelling. The most common time is during or 3-11 days after the parotitis.¹³ However, cases developing central nervous system symptoms preceding parotid swelling are numerous in the literature.^{11,13,20} Also Eberlein¹³ found an incidence of 13% of meningoencephalitis without parotid swelling in 280 cases of this disease.

Between January, 1943 and March, 1951, there were 57 cases of mumps meningoencephalitis admitted to the Medical College of Virginia Hospitals. The distribution of this series of cases is shown chronologically in Table I. The majority of cases were admitted in 1950. Whether this increased incidence in 1950 is due to better recognition of this disease

*Read before the Virginia Pediatric Society, at Roanoke, April 6, 1951.

TABLE I

Year	1943	1944	1945	1946	1947	1948	1949	1950	1951	Total											
No. of Cases	1	0	4	1	0	5	1	39	6	57											
White Patients -----					50	Male Patients -----					37										
Colored Patients -----					7	Female Patients -----					20										
Age, Years	___	1	2	3	4	5	6	7	8	9	10	11	12	13	_	15	_	17	-----	23	24
No. of Cases	----	2	6	7	1	7	6	7	6	4	1	3	2	1		1		1	-----	1	1

Extremes: Youngest — 5 months

Oldest — 24 years.

or due to a special strain of mumps virus which has a predilection for the central nervous system is not known. In this group there were 37 males and 20 females as compared to the usual 4:1 ratio of males to females, as cited in the literature.²¹ Fifty of the patients were white and 7 were colored. The ages ranged from 5 months to 24 years with the majority of cases falling in the 2-9 year range.

The frequency of the signs and symptoms encountered in these 57 cases are shown in Table II.

TABLE II
FREQUENCY OF SIGNS AND SYMPTOMS IN 57 CASES

SYMPTOMS	No. OF CASES
Fever -----	55
Nuchal Rigidity -----	49
Nausea and Vomiting -----	47
Headache -----	46
Parotid Swelling -----	39
Abdominal Pain -----	17
Change in Sensorium -----	9
Convulsions -----	2

These generally correlate fairly well with series of cases described in the literature, except for the high percentage of cases occurring without parotid swelling. The criteria used to include a patient in this paper were that he either have clinical meningeal signs and symptoms with parotid swelling or spinal

fluid changes with either parotid swelling, history of exposure to mumps, or a significantly high complement fixation titer for mumps. The two cases in whom convulsions occurred were 5 and 20 months of age and had high fever. It was generally thought that these were febrile convulsions rather than caused by the virus of mumps in the central nervous system.

Table III shows the relationship of the central nervous system symptoms to parotid swelling. It

TABLE III
RELATION OF C. N. S. SYMPTOMS TO PAROTID SWELLING

C. N. S. SYMPTOMS	No. OF CASES
With no parotid swelling -----	18
Absent with parotid swelling -----	1
Before parotid swelling -----	1
With swelling simultaneously -----	8
After parotid swelling began -----	29

EXTREMES

C. N. S. symptoms began 2 days before parotid swelling in 1 case.

C. N. S. symptoms occurred 26 days after parotid swelling began in 1 case.

should be noted that the central nervous system symptoms followed the onset of parotid swelling in the majority of the cases. The time range for these symptoms was from 2 days before parotid swelling to 26 days after parotid swelling began. Table IV

TABLE IV
DISTRIBUTION AS TO TIME C. N. S. SYMPTOMS APPEARED AFTER PAROTID SWELLING
BEGAN IN THE 29 CASES IN THIS GROUP

*No. of days after parotid swelling began	-----	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	--	26
No. of cases	-----	1	1	6	2	3	4	2	4	1	1	0	1	1	0	1	--	1

*Average duration of parotid swelling: 7-10 days.

shows the distribution as to the time the symptoms appeared after parotid swelling began in the 29 cases in this group. The largest number of cases showed central nervous system symptoms on the 3rd day after parotitis began and the average was on the 7th day after parotitis. Since 7-10 days is the average duration of parotid swelling,²² the average case would be showing central nervous system symptoms as parotid swelling is disappearing.

Table IV summarizes the spinal fluid changes in relation to the complement fixation test (when done), occurrence of parotid swelling and history of exposure to mumps in the cases reported. Only the initial spinal fluid findings are recorded. The white cell count ranged from 1 to 22,500 per cubic millimeter with an average of 1,241 cells per cubic millimeter. The patient with only 1 cell per cubic millimeter was included in this series because the spinal tap was done early in the course of the disease and he later developed clinical signs and symptoms of meningitis along with parotid swelling. The patient with 22,500 cells per cubic millimeter had

a history of exposure to mumps, with parotid swelling one week prior to admission. He also had meningeal signs and symptoms and the spinal fluid smear and culture for bacteria were negative. His white blood count was 15,000 with 47% polys, 45% lymphs, and 8% monocytes. The patient received no chemotherapy and was discharged on the 4th hospital day afebrile and asymptomatic. Lymphocytes were usually the predominating cells in the differential count with the average differential count being 74.2% lymphocytes and 25.8% polymorphneutrophils. In 6 cases the polys outnumbered the lymphocytes. The highest protein was 200 mgm. % with the average being 58.8 mgm. %. In comparison to these figures, 100 cases of acute anterior poliomyelitis admitted during the epidemic of 1950 were chosen by chance and studied in regard to their spinal fluid changes on admission to the hospital.

The averages are shown at the bottom of Table V which tend to indicate that the number of white cells found are much less than in mumps meningoencephalitis. The differential shows a larger per-

TABLE V
CEREBROSPINAL FLUID CHANGES

No. of Cases	Year	Day of Tap	Cell Count	% P	% L	Prot. Mgm. %	C. F. Test	Parotid Swelling	History of Exposure
1	43	6	1195	26	73	70	N.D.	+	?
2	45	14	336	41	59	20	N.D.	+	+
3	45	2	140	22	78	35	N.D.	+	+
4	45	1	128	34	66	63	N.D.	+	+
5	45	2	140	22	78	35	N.D.	+	?
6	46	5	22,500	0	100	84	N.D.	+	+
7	48	1	1	0	100	15	N.D.	C Mening	Signs
8	48	1	513	57	43	50	N.D.	+	+
9	48	2	215	20	80	26	N.D.	+	—
10	48	3	3030	93	7	200	N.D.	—	+
11	48	2	39	33	67	45	N.D.	+	+
12	49	4	880	44	56	160	N.D.	—	+
13	50	1	615	6	94	31	N.D.	+	—
14	50	2	330	16	84	20	N.D.	—	+
15	50	3	455	12	88	60	1:64	—	—
16	50	8	402	10	90	84	---	+	+
17	50	2	138	3	97	50	1:128	—	+
18	50	5	320	1	99	50	1:8	+	+
19	50	9	550	4	96	40	N.D.	+	—
20	50	2	173	72	28	37	1:64	—	+
21	50	4	310	40	60	35	1:128	—	—
22	50	3	390	3	97	35	1:128	+	+
23	50	7	183	2	98	30	1:64	+	—

No. of Cases	Year	Day of Tap	Cell Count	% P	% L	Prot. Mgm. %	C. F. Test	Parotid Swelling	Hitory of Exposure
24	50	19	40	40	60	40	---	—	+
25	50	2	238	12	88	61	1:8	—	+
26	50	1	140	10	90	60	E. -	—	+
27	50	2	490	46	54	50	E. -	+	—
28	50	3	121	2	98	46	1:16	+	—
29	50	4	5500	40	60	60	E. -	+	+
30	50	3	310	15	85	35	E. -	+	+
31	50	5	238	24	76	115	E. -	—	+
32	50	6	531	19	81	40	N.D.	+	+
33	50	1	670	36	64	60	1:32	—	+
34	50	2	109	13	87	25	E. -	+	—
35	50	7	700	5	95	92	1:8	—	+
36	50	1	2730	0	100	40	E. -	+	—
37	50	Mening.	Signs	No	Tap	—	N.D.	+	+
38	50	11	960	13	87	108	N.D.	+	—
39	50	4	120	15	85	30	N.D.	+	+
40	50	6	224	65	35	95	1:16	—	+
41	50	8	5850	4	96	50	N.D.	+	+
42	50	8	183	43	57	38	1:8	+	+
43	50	1	340	25	75	28	1:32	+	?
44	50	3	2100	25	75	35	1:64	+	—
45	50	9	1050	12	88	100	N.D.	+	+
46	50	1	529	91	9	38	N.D.	+	—
47	50	2	213	31	69	40	---	+	?
48	50	12	636	20	80	40	E. -	—	+
49	50	8	51	32	68	40	---	—	+
50	50	26	334	66	34	46	1:64	+	+
51	50	7	245	37	63	75	N.D.	+	+
52	51	3	8900	15	85	75	1:16	+	+
53	51	4	207	15	85	25	1:16	+	+
54	51	8	1680	20	80	190	1:8	+	?
55	51	6	435	35	65	20	1:16	+	+
56	51	2	250	48	52	170	1:32	+	+
57	51	3	614	8	92	50	1:128	—	+
Average:		4.9	1,241	26	74	58.8			
			194	36	64	54.9 av. for 100 cases of polio. in 1950 taken by chance.			

centage of polymorphneutrophiles in poliomyelitis, while the protein values of the two diseases are nearly identical.

The complement fixation test for mumps was not done until 1950, and during a large part of this year the test was done by a modification of Eagle's serologic test for syphilis which proved to be unsatisfactory. For this reason the negative results lettered by a capital E in this table are not reliable. This method was superseded by the Kolmer method which gave satisfactory results. However, because of the early discharge of the patients, two successive tests approximately 2 weeks apart were not done.

As far as our follow-ups of these patients are possible, only 1 of these 57 cases has shown any residual difficulty following the illness. This was a 4 year old white male who still shows a residual muscle spasm and transitory ankle clonus in one lower extremity.

Other than the spinal fluid differences as cited above, the only differential points noted clinically between mumps meningoencephalitis and non-paralytic poliomyelitis were: first, that mumps meningoencephalitis patients do not appear usually as toxic and to have as much muscle pain and spasm in relation to the high number of white cells in the spinal

fluid as poliomyelitis patients, and, second, that mumps meningoencephalitis patients seem to get more relief from central nervous system pressure symptoms following the initial lumbar puncture than do poliomyelitis patients. This second observation is noted frequently in the literature.^{23,24,25,26} However, it should be said mumps meningoencephalitis without parotitis cannot be distinguished from non-paralytic poliomyelitis except by laboratory methods.²⁷ No attempt is made in this paper to discuss the differential diagnosis between mumps meningoencephalitis and other viral meningitides, such as lymphocytic choriomeningitis.

Frank²⁵ in 1943 probably developed first a diagnostic test for identifying the mumps virus as a cause of meningoencephalitis when he was able to inject spinal fluid from a patient with mumps parotitis and meningeal symptoms into the testicles of guinea pigs and produce orchitis. In 1945 Habel²⁹ successfully cultivated the mumps virus in embryonated chicken eggs. Using this method, Henle³⁰ was able to isolate and identify the mumps virus from the spinal fluid of a patient with meningeal signs without parotitis. It has been observed that the virus is able to agglutinate erythrocytes and on this basis an anti-hemagglutination test was devised in which a patient's serum containing antibody prevents this agglutination. Enders and Kane³¹ have developed a complement fixation test which has proved to be a reliable means of detecting antibody late in the convalescent stage of mumps. Henle has since found two mumps antigens, the virus and soluble antigen. Early in the disease the antibody titer against the soluble antigen will rise, while only late in convalescence will the virus antibody titer rise. Therefore, tests which show a rising soluble antibody titer and a negative virus antibody titer are diagnostic of acute mumps virus infection.

Enders³¹ has developed a skin test for mumps, using a suspension of attenuated mumps virus in which a positive test apparently indicates a previous infection by the mumps virus. However, this test was not used in our patients. Habel³² also has developed a vaccine to prevent mumps in adults where its complications are undesirable. We have not used this vaccine since it is rarely worthwhile to protect a child against mumps.

In Summary:

1. Fifty-seven cases of mumps meningoencephalitis

were reported and several clinical aspects of this disease were analyzed.

2. The following observations were noted from an analysis of these cases.

(a) Mumps meningoencephalitis is a more common disease than generally thought, but the cause of the apparent increased incidence is obscure.

(b) In this disease the central nervous system symptoms have their onset in the majority of cases 3 to 7 days after the onset of parotitis.

(c) Mumps meningoencephalitis occurring without parotid swelling is not infrequent, occurring in 31.6% of our cases.

(d) In our series, the patients with mumps meningoencephalitis had a higher white cell count in the spinal fluid with a greater percentage of lymphocytes than the acute poliomyelitis patients, while the spinal fluid protein values were nearly equal.

(e) Sequelae were rare, occurring in only 1.7% of our cases.

(f) The complement fixation test is a worthwhile diagnostic test for mumps, since 31.6% of our cases had no parotid swelling.

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New Books.

Below are listed some of the newer books in the Tompkins-McCaw Library of the Medical College of Virginia, Richmond, which may be borrowed by our readers under usual library rules:

- Am. Academy of Orthopedic Surgeons—Instructional course lectures, vol. 8, 1951.
- Brown, A. I.—Clinical instruction, Latest ed. 1949.
- Cecil—Specialties in general practice, Latest ed. 1951.
- Custer, R. Philip—An Atlas of blood and bone marrow, 1949.

- Dunn, L. C., editor—Genetics in the 20th Century, 1951.
- Fluhmann, C. F.—Medical treatment in obstetrics and gynecology. Latest ed. 1951.
- Gregg, Donald G.—Coronary Circulation, 1950. Latest ed.
- Heardman, H.—A way to natural childbirth, 1949. Latest ed.
- Krusen—Physical medicine and rehabilitation. Latest ed. 1951.
- Steindler, A.—Postgraduate lectures on orthopedic lectures and indications, Latest ed. 1950.
- Thorn, G. W.—The diagnosis and treatment of renal insufficiency, 2nd ed. 1951.
- Welch & Lewis—Antibiotic therapy, Latest ed. 1951.

FRACTURE DISLOCATION STERNO-CLAVICULAR JOINT— Case Report

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Dislocation of the sterno-clavicular joint is in itself rare, and posterior dislocation of the clavicle at this joint associated with fracture is extremely rare. This paper presents a case with description of the forces involved, diagnosis, reduction, treatment and five months follow-up.

W. E., a fifteen year old colored male in good health was playing football without shoulder guards on October 23, 1949. He fell forward and down-

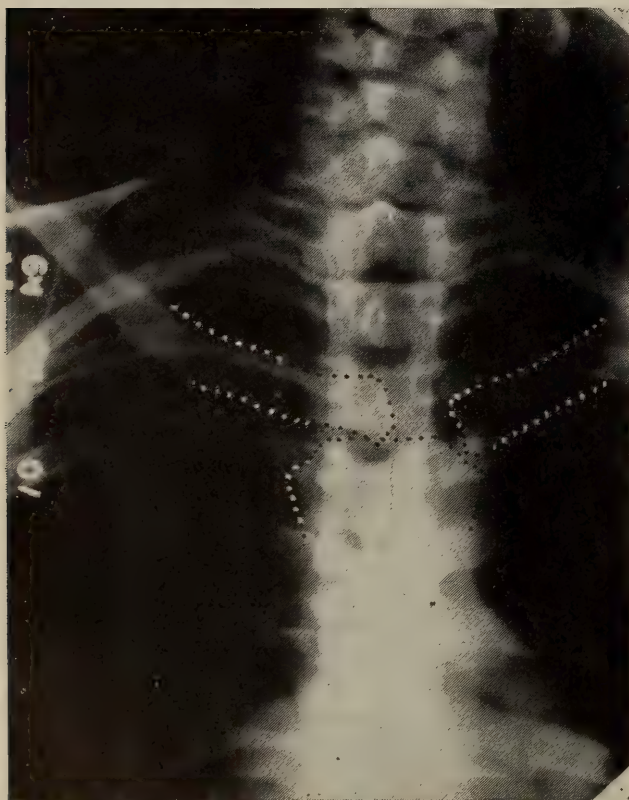


Fig. 1. On October 23, 1949, x-ray shows proximal end of right clavicle in the midline and slightly above the level of the proximal end of the left. Clinically, the proximal end of the right clavicle was posterior to the manubrium, and in the midline.

ward from a half standing position striking his right shoulder near the medial end of the clavicle on the hip of his opponent who was rising from a crouch. He felt sharp pain in the right sterno-clavicular re-

gion and could not use his arm. He was seen in the emergency room where he was examined and X-rays (Fig. 1) were taken confirming the clinical impression of dislocation of the sterno-clavicular joint. Lateral X-rays were not taken but it was agreed from clinical observation that the proximal end of the clavicle was posterior to the manubrium.

One attempt at reducing the dislocation was made but because of local pain it was not forceful. Therefore 20 cubic centimeters of 1 per cent procaine were injected locally into the right sterno-clavicular region using a short number twenty-two needle. With the patient on his back and his arm by his side, lateral traction was made on the arm at the axilla by an assistant. The proximal end of the clavicle was then grasped between the fingers and lifted up and over the cephalic end of the manubrium (towards the head and then anteriorly). Slight crepitation was felt and then the clavicle was felt and heard to reduce with a "cluck". The patient did not complain of pain during this procedure and did not appear to suffer. He was then told to pull his shoulder up and back and the clavicle was felt to subluxate posteriorly. A pad was then placed over the clavicle and a military cross belt type of adhesive strap was applied as described by Key and Connell¹. The patient was discharged immediately after reduction.

On October 26, 1949, the patient returned to the outpatient clinic and a figure of eight bandage was applied. On Nov. 4, 1949, both the adhesive straps and figure of eight bandage were removed and the patient was advised to guard the use of the shoulder and arm. On Nov. 11, 1949, there was still a moderate amount of swelling at the joint but it did not subluxate clinically, was not painful on motion and was only slightly tender. On Dec. 9, 1949, X-rays showed only very slight subluxation of the joint with callus around the medial inch of the clavicle. Re-examination on March 22, 1950, showed no clinical subluxation on active or passive motion but painless

enlargement near the proximal end of the clavicle was still present. The patient did not complain of any pain or restricted use of the right arm. On examination by several orthopedists it was concluded that the patient had an excellent result. X-rays (Figs. 2 and 3) did not show evidence of subluxation.

DISCUSSION

Although the sterno-clavicular joint is oblique, it does not readily dislocate because of its protected location and the strength of its joint capsule. Even though it has been suggested that numerous roentgenograms are necessary for diagnosis, probably the most important are good posterior-anterior and a good lateral of the sterno-clavicular joints. Oblique posterior-anterior views may bring the joint out better

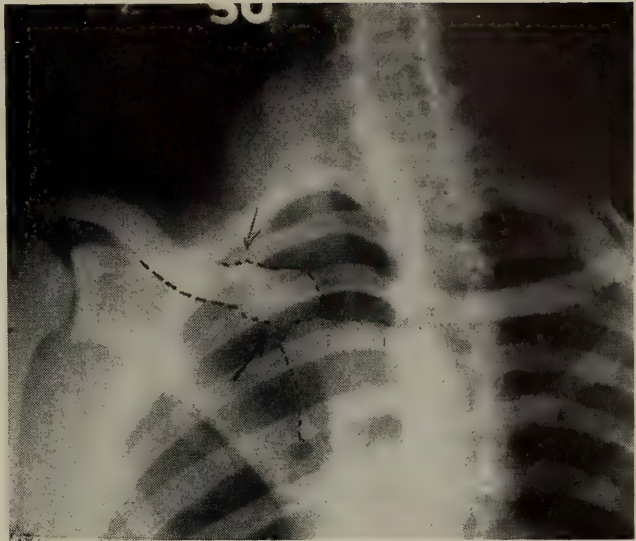


Fig. 3. March 22, 1950, x-ray shows oblique view to bring left sterno-clavicular joint into relief for comparison with the right (Fig. 4).

locate by pulling it out of its joint rather than holding it in. It was also felt that a military cross belt type of adhesive strapping with a felt pad over the clavicle should prevent the clavicle from again riding up and over the manubrium.

It is also believed that the arm should not be abducted in attempting to reduce the dislocation but that lateral traction should be applied in the axilla with the arm to the side because abduction of the

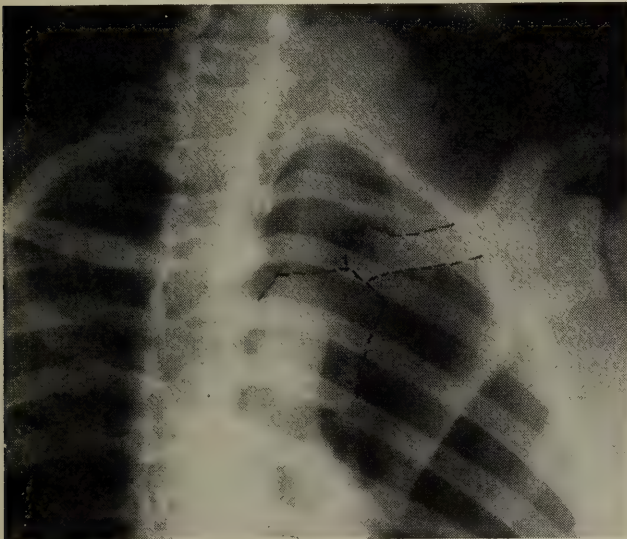


Fig. 2. March 22, 1950, oblique x-ray to bring the right sterno-clavicular joint into relief shows callus and slight deformity (top arrow) of the clavicle about one inch lateral to the joint five months after injury. This shows normal approximation of the clavicle to the manubrium as compared with the left sterno-clavicular joint shown in Fig. 4.

(Figs. 2 and 3). Even more important than X-ray is a good logical clinical examination, but if you want to prove it to disbelievers you must have good X-rays.

Although open reduction has been recommended in many cases, it was not necessary here because of the stability after reduction which must have been due to an incomplete tear of the capsule. It should be noted that the patient caused subluxation of the joint by pulling his shoulder back and up; therefore, in contrast to the usual clavicle injury a figure of eight bandage might cause the clavicle to redis-



Fig. 4. X-ray December 9, 1949, shows proper lateral alignment of sternal ends of clavicles. This view is suggested, in retrospect, to determine by x-ray if the dislocation is anterior or posterior.

arm puts the pectoralis major muscle on a stretch, thereby forcing the clavicle medially. Although a fracture is not seen on X-ray, the crepitation at the time of reduction and the callus observed by X-ray after injury suggests that the injury was a fracture dislocation although the fracture was not the predominating injury.

SUMMARY

Posterior or retrosternal dislocation of the clavicle caused by direct violence is presented with probable associated fracture. It was reduced, using local procaine anesthesia, with lateral traction and lifting the clavicle up and over the manubrium. Direct pressure was used to keep it in position. The re-

sulting reduction was stable and the patient has experienced no appreciable handicap from the injury. It is believed that, because of the superficial position of the joint and the difficulty which the average person has in obtaining and reading X-rays of the joint, clinical examination is as important as X-rays in making a diagnosis.

Appreciation is expressed to Mrs. Cornelia Johnson for the X-rays and Mr. M. C. Shaffer for their reproductions.

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Floral Eponym

MENZIESIA

MENZIES, ARCHIBALD (1754-1842).

Archibald Menzies, a native of Perthshire, entered the ranks of surgery through the botanical gate. His brother procured for him a position as gardener in the Botanical garden of Edinburgh and, with the help of Dr. John Hope, the professor of botany, he took the course in surgery at the university. In 1778 he went on a botanical trip through the Highlands and the Hebrides; he practised surgery at Carnarvon. Later he joined the Navy and went as surgeon on the Prince of Wales on a fur trading voyage to the Northwest coast of America, returning by way of China. He was elected to the Linnean Society in 1789.

Menziesia is a genus of an American and Asian, small, desiduous shrub of the heath family.

A REVIEW OF SLAVE CARE ON SOUTHERN PLANTATIONS

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To the average person the ante-bellum South was a land of romance, a land covered with the Doric columned homes of the Greek revival, whereas in reality the South was no more covered with these homes than England was covered with medieval castles. In fact, life in the South was hard, frontier conditions prevailed. Only too often the planter's home was a log cabin, only a little more pretentious than the home of the slave. The spacious home depicted in fiction existed in only a few localities and they came late. The whole country was on the move. There was a frontier to be opened up. Families were separated—never to be heard from again. Law and order was too often the word of one individual. Plantations were few and far between. The cultivation of the arts or the social graces were limited to a few families. It was a crude society, and it gave to its members justice and care in accordance with the customs and knowledge of that period.

The planters, as the term is usually referred to, comprised a small group of farmers who owned thirty or more slaves. But because of their social position it was this group who made the contacts with the outside world, and in time the world came to view the South from the impression given to it by the planter class. In reality the planter class made up only a small minority of the Southern farmers. By far the larger group was the small farmer who owned few if any slaves and who worked his few acres by the sweat of his own brow. It was this yeomanry that was the backbone of the ante-bellum South, and it was this class that made up the rank and file of the Southern Army during the War between the States. It must not be supposed that the farmer class was opposed to slavery. In fact, in many cases he actually supported the institution. He dreaded the effect a large group of liberated slaves, undisciplined and unpoliced, might have on his livelihood. Then, last among the social classes of the South was the "poor-white-trash" who eked out a meagre living much the same as the Indians, and whom even the Negroes looked down upon.

Slavery was introduced into the Colonies during its very early days, and because laborers were so badly needed, the importation of Negro slaves became a very profitable business. Two types of systems sprang up due to the introduction of slaves. In Virginia the Englishman who settled there wished to continue the life he was accustomed to lead in England. Accordingly, the English manorial system suited his idea of living in which the labor would be furnished first by a group of indentured laborers and later by a group of Negro slaves. In the Carolinas at first the commercial type of plantation then prevailing in the British West Indies was introduced and flourished for a time. In this type of plantation system the planter had very little interest in his laborers. He did not intend to make his home in the New World, but as soon as his plantation was established to return to England to live off the profits. As a result he had little interest in the welfare of his slaves. Slaves were cheap and it was much simpler to replace losses with fresh importations than to be too concerned with the care of the slaves. In time the Virginia type of plantation prevailed over the Carolina (commercial type) because the planters soon realized that a second generation slave was worth a great deal more to him from the training he had received than a freshly imported African. Therefore, very early in the history of slavery in the colonies a second generation slave was worth twice as much as one just arrived from Africa. In time largely through empirical observations a set of rules and regulations were compiled by the planters for the well being and management of their slaves. These rules governed every phase of the slave's life: his social and religious life, his food and clothing, working conditions, and what may be classed as medical care.

The plantation as a rule was organized along the lines of a self containing economic unit. A staple crop was grown, either tobacco, rice, cotton, or cane to serve as a money crop, and sufficient food stuffs were raised for both slaves and stock. However, all too frequently additional supplies had to be pur-

chased to supplement that grown on the plantation. The laboring force on the plantation was also organized. The head of the plantation work force was the overseer, a character much abused in fiction. Usually he was an individual, probably a descendant of the indentured white servant class, with no more than a second grade elementary education. His viewpoint of slavery was limited to making the slaves work, with a minimum of loss through sickness or death. His working hours were long and exacting. It was he who must arise long before day to arouse the slaves and have them out in the field by sunrise. He must keep them employed all day, and look after their health and welfare as he understood it. At night he must ring the curfew and see that everyone was in bed and secure the stock for the night before retiring himself. On the whole the overseer was hated by the slaves. It was he who made them work and administered the discipline and punishment as needed. It was the planter or owner to whom they could appeal for mercy. However, the overseer was not disturbed by the social implications of slavery. His job was to make slavery work, and, as a whole, it was due to his ability that it was made to work as well as it did, thereby shackling the institution of slavery firmly on the South. Just below the overseer in authority were the "drivers." These were Negro slaves who served as foremen of the various gangs. This was a much sought after position by the slaves due to the prestige it gave them among their fellows. The workers were classed as craftsmen or mechanics, cooks, nurses, seamstresses, house servants and the numerous field laborers.

The working hours of the slaves compared favorably with working hours of that period. It is true that working hours were usually specified from sunrise to sunset. As a rule, the workers were given an hour off for breakfast and from one to two hours for dinner. Then, too, if the slave was worked by the task system a prime field hand could often complete his task for the day by two o'clock. Saturday was as a rule a half holiday, or if a slave mother had several children she was granted all of Saturday. During the grinding season on the cane plantations the workers were pushed to complete the grinding season, but they were usually compensated by time off later or by being paid for the extra hours or days they were required to labor.

The food supply was one of the primary consid-

erations of the planter, and, in regard to the quantity of the food issued, very little criticism can be directed to the planter. He realized that in order to obtain the maximum amount of work from his slaves they had to be well fed. He was very generous in his rations and one may say if he erred, he erred on the side of plenty. Criticism can be directed mainly against the quality of the food. It wasn't so much the planter's fault as it was the ignorance of the times regarding the importance of a balanced diet and the inability of the planter to supply fresh vegetables due to lack of refrigeration. Efforts were made to supply these deficiencies in many cases. Slaves were encouraged to work their own plots or gardens of vegetables, although unfortunately it was sales from their own gardens that supplied the slaves with their only source of revenue. Therefore, instead of supplying their own needs, they all too often sold the produce from their gardens. In many cases we read of ice houses being maintained by the planters, particularly in the upper South. Even in lower Mississippi some ice houses were built, repaired and maintained by the planters. Rations of the staple foods varied from section to section and from plantation to plantation, according to the resources and ideas of the planter. Yet in most cases the ration allowance shows a remarkable uniformity. A prime field hand was usually issued a peck of corn meal and three or four pounds of bacon per week. In addition there were issues of molasses, and potatoes, peas, and vegetables in season. Coffee was quite frequently issued in the morning, and when the slaves were employed at extra heavy work additional rations were issued. Children received a proportional amount. One planter specified that each child was to receive one-third of the meat and meal ration given to each prime hand. For breakfast each child received hominy, milk and cold corn bread and for dinner vegetable soup and dumplings or corn bread. In addition there was always available cold corn bread and potatoes at any time they wished between meals. Molasses was issued once or twice a week. The planters usually preferred the preparation of the food to be done by a plantation cook in order that the preparing of the food may be better supervised, since the Negroes were notoriously careless in this respect. Of course, there was little concern over the hygienic aspects of food sanitation. Dish washing was probably carelessly done, and one traveler

commented once on the number of flies present on the cooking utensils.

The clothes issued to slaves were of a coarse, substantial quality. As a rule, the men received every year a woolen suit with two flannel shirts and a woolen cap for winter, a cotton suit, two shirts and a straw hat in the spring. The women's clothes ration consisted of six yards of light and six yards of heavy cotton cloth with needles, thread and buttons. In the fall and spring each worker received a pair of stout shoes, and a blanket every other winter. In the rainy season oil cloth coats were frequently issued. Children received clothes in proportion. One planter used as a measuring stick for issuing cloth to children the height of the child. Garments were often made on the plantation by Negro seamstresses. It was only after the introduction of steam power in manufacturing cloth that clothes were bought already made. Suspenders were noted on one plantation being issued to the men. Of course, the house servants frequently received the cast off clothes of their master and mistress.

Slaves lived in what was known as the "Quarters," a double row of cabins facing each other with a path or roadway between. Cabins were built from fifty to hundred feet apart and the rows were usually two hundred feet apart. At first log cabins were the usual type of homes with chimneys of clay or brick. Later these were replaced with frame cabins weather boarded on the outside with brick chimneys, and still later brick was used to construct the cabins. The cabins contained only two rooms, with very little in the way of furnishings. A box bed, a crude rocking chair or bench and pegs for hanging clothes comprised the furnishings. As always there were exceptions to this. Slaves frequently acquired additional furniture to add to their meagre supply either from their earnings or from gifts.

One of the prime considerations of the planters was the health of their slaves. Rules and regulations for the management of the slaves were carefully written out for the benefit of the overseer who was charged with the management of the estate. P. C. Weston of South Carolina instructed his overseer as follows:

Sickness—All sick persons are to stay in the hospital night and day, from the time they first complain to the time they are able to go to work again. The nurses are to be responsible for the sick not leaving the house, and

for the cleanliness of the bedding, utensils &. The nurses are never to be allowed to give any medicine without the orders of the Overseer or Doctor. A woman, beside the plantation nurse, must be put to nurse all persons seriously ill. In all cases at all serious the Doctor is to be sent for, and his orders are to be strictly attended to; no alteration is to be made in the treatment he directs. . . .¹

The majority of planters seem to have some appreciation of personal cleanliness. Slaves were required to bathe once a week under the supervision of the overseer or driver. Mothers were instructed to change their children's garments twice a week in many cases. Soap was manufactured on the plantation, but there are many records showing that soap was purchased. On many of the plantations there was instituted a rule for spring cleaning. Homes were emptied of their contents and whitewashed inside and out. The premises were cleaned; particularly was the refuse under the cabins cleaned out and burned. The planter appreciated the value of pure water and observed that rain water was much healthier than water drawn from shallow streams or wells. This was an observation far in advance of the rational medicine of that day. On the other hand, there seems to have been a lack of understanding of the proper steps to be taken of garbage disposal and the building and location of privies. Flies seemed not to have bothered the planter or slaves and the proper scouring of cooking utensils seems not to have been properly appreciated.

Responsibility for the medical care of the slaves was, of course, the responsibility of the planter, or, as was usually the case, his wife, the mistress of the plantation. In the absence of the planter and his family the responsibility rested upon the overseer and his wife. Medicine was prescribed by either the planter, his wife or overseer, and then in many cases it was the Driver who did the doctoring or some folk remedy that was applied. Doctors often complained that they were sent for much too late to do any good. However, a planter was not too prone to skimp when it came to providing medical care for his slaves. He had too much invested in his laborers to neglect them. It may be said that within the limits of the conditions of the times the planters provided the best medical care possible for their slaves. In the lower South the practice was for a planter to contract by the year for the medical servicing of his slaves. His contract with a physician was usually from three-hundred to five-hun-

dred dollars per year, while on the Eastern states the practice was usually for bills to be rendered by visits or medicine purchased.

With the lack of legal restrictions on medical practices everyone could practice medicine and most everyone did. Although there were a few medical centers in the South the majority of practitioners lacked what may be considered adequate training for their period. Medical cults flourished throughout the South. Negro folk medicine played its part. Medical chests and home remedies were the standard equipment of every plantation and home. Medical schools and journals were few and far between. There was little incentive for a physician to better prepare himself in the practice of his profession. Even with the meagre training and equipment at his disposal a number of Southern physicians made distinct contributions to medical practice among whom may be mentioned Nott, Cartwright, Sims, Long, McDowell and Fenner, to name a few.

The diseases attacking the slaves were those common at that time. Cholera and yellow fever were epidemics to be dreaded. Malaria took its toll of lives. It was not until the isolation of quinine from cinchona by two French chemists in 1822 resulted in the prescribing of quinine sulphate in sufficient doses to prove effective against malaria. The Negroes were particularly susceptible to lung infections, and pneumonia took its heavy toll. There seems to be a disagreement among several writers as to the prevalence of tuberculosis among the ante-bellum Negroes. Vaccination was a common practice soon after its discovery. Tetanus attacked slaves of all ages. It was particularly destructive among infants, and was one of the main causes of death among the newly born. Cachexia Africana (dirt-eating) was the dread of every planter. Plantations were known to be depopulated through dirt-eating in two years.

Therapy consisted for the most part in the administering of calomel and other cathartics, quinine, blisters, blood letting, baths and numerous other counter-irritating treatments. However, through it all the planter strove to improve the health of his slaves to the best of his ability. Good business required that his slaves lose a minimum of days work from sickness, and social custom demanded that he be good to his "people."

The obstetrical care of women followed a fairly uniform pattern. As soon as a woman announced

herself pregnant she was assigned light tasks until her confinement. At that time she was confined to the lying-in room of the plantation hospital. The plantation "granny" or midwife were the usual deliverers, as few doctors were called in on such cases. Every large plantation had its own midwife or quite frequently a midwife served for a group of plantations. In such a case the usual fee was two dollars to be paid the owner of the midwife. Of course, the service rendered the patient was meagre. The greatest asset of the midwife was that she did "nothin," but let nature take its course. The common practice was to assign the mother to the hospital for at least a month or longer if necessary. One of the darkest pictures in caring for the slaves was the lack of appreciation of hygienic care of the infant. As a result the mortality according to some writers was as high as fifty per cent. As soon as the mother was able to return to work, which was light at first, the infant was placed in charge of the plantation nurse. Mothers were permitted to return to the nursery throughout the day to nurse their infants. In many cases they were cautioned to rest themselves before nursing, so as not to nurse while over-heated.

Each plantation of any size had its hospital or "sick house" as it was called. The plantation hospital probably came into existence during the eighteen twenties, as most of the "doctor" books published then contained recommendations for the building and organization of the hospital. At first the arrangements were rather simple. As recommended in one of the books:

I feel it my duty to advise him, not only for humanity, but interest sake, to erect for his slaves, especially if he have many, a cheap coarse kind of building as an hospital. This building should be fixed on some spot, enjoying, in the highest degree, the double advantage of good water and air. It ought to consist of but one large room, quite open to the top, well aired by doors and windows, and with a plank floor, that it may be frequently washed and kept perfectly clean.²

From this rather primitive beginning the hospitals in time became more elaborate in their organization. Wards were assigned to the men and women. There was a special ward or even a hospital for confinement cases, or, as it was referred to, the lying-in room. Special rooms were assigned the convalescent. There were even records of internes being used. Doctors made regular visits, and someone was assigned to act as plantation nurse. Quite frequently in town a

hospital was organized to care for the slaves. The charges were about half that charged for whites, and some made a point of advertising that there was a resident physician in charge at all times.

It is very interesting in concluding this paper to speculate on the effectiveness of the medical care rendered to slaves. Various writers have disagreed as to how effective the planters were in caring for the health of the slaves. Some writers have pointed to the Rules for the Management of Slaves as an example of how well they were cared for. Others have pointed to the testimony of physicians of just how poor health conditions were. The picture from the standpoint of the literature is rather confused. The thing to remember is that health conditions at that time were bad everywhere in comparison to standards today. Rural conditions prevailing in the South could be duplicated everywhere. A survey of a few plantation journals throughout the South reveals some interesting vital statistics. Fifteen plantations in Alabama, Florida, Georgia, Louisiana, Mississippi and Texas show a morbidity rate (days lost from work per slave per year) which varied from 4.3, the lowest, to 21.3, the highest, with a

median of 11.1 and a mean of 12.0.³ Infant mortality rates were high in comparison to standards today, but were not unduly high for the ante-bellum period. The same number of plantations throughout the South reported 1,114 live births and 170 infant deaths which gives a death rate per thousand of 152.6.⁴ The records of twelve plantations between the years 1830 and 1861 show a median birth rate of 54.2 per thousand. This figure was based on a slave population of 8,274 and 451 live births.⁵

In view of the health conditions prevailing during the ante-bellum period one is probably safe in saying that slave health was comparable to the public health of that era, and whatever were the failures were simply the failures of the times.

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New Type of Hospital Bed Chair Described.

A new type of folding bed chair, which will permit a recuperating patient to sit upright in a hospital bed without the effort entailed in moving out of bed and into a chair, was described in the Jan. 12 Journal of the American Medical Association.

"An upright position generally is more comfortable as well as more beneficial," according to Drs. Hugh T. Jones and John M. Askey, of St. Vincent's hospital, Los Angeles. Dr. Jones devised the chair,

which has been used for elderly patients following injury or surgery, those with heart disease, and in cases where bed rest is essential and yet a prolonged upright position is also desired.

The new chair has no seat. The patient sits on the side of the bed and the chair is placed behind him. Its supportive position is maintained by fastening the chair to the bed. Downward extensions of the arm rests are attached by screw clamps to the angle iron beneath the mattress.

THE MEDICAL SOCIETY OF VIRGINIA

Public Relations

Committee Meeting.

Chairman, Dr. James P. King of Radford, opened the initial meeting of the Public Relations Committee at 2 p.m., January 3, 1952, at The Medical Society of Virginia headquarters in Richmond: Dr. B. W. Rawles, Dr. John W. Davis, Dr. J. T. T. Hundley, Dr. H. B. Mullholland, and P. R. Director R. I. Howard were present to help formulate a public relations program for the year. Also attending was Mr. Alden Aaro of radio station WRVA.

Mr. Aaro headed the agenda with an offer of public service radio time on station WRVA at no expense to the Society. Elaborating on his proposal, Mr. Aaro commented that time could be made available for fifteen-minute-weekly programs progressing over a period of six to thirteen weeks to be conducted under the auspices of the Society. Tentatively suggested was the Sunday quarter hour 12:00 to 12:15 p.m. Such a program would afford approximately thirteen minutes of actual dialogue.

The radio executive suggested several possible topics including the supply or availability of medical services, educational facilities in Virginia, legal and other controls exerted over physicians, and ultimate aims of the profession. Any topic selected should concern medical problems in Virginia and should be of a general, non-technical nature thereby creating greater listener appeal. In this connection, it was mentioned that the program could be recorded on tape for use at other broadcast stations in the state.

Various other program subjects suggested were: the chronically ill; night emergency calls; socialized medicine; voluntary health insurance. Mr. Aaro posed the problem of how a family might best go about buying its medical care. In addition, he reasoned the broadcast series must avoid the appearance of a sounding board for the pros and cons of socialized medicine and should not favor any special group of physicians.

If desired, copy material supplied by the Public Relations Committee could be re-written for presentation by the WRVA station staff. A questions-and-discussion type of program with a moderator and one or two physicians participating is preferred, avoiding the use of prepared papers or speeches.

Passed unanimously was a motion to develop the

programs through a committee to be appointed for that purpose. It was agreed that these programs should be used in preference to several suggested radio transcriptions available from other sources.

An ensuing discussion resulted in the postponement of the Public Relations Conference until April 3rd or April 10th, a date more closely dividing the period between annual Society conventions. Dr. John T. Hundley was appointed general chairman of the conference which would feature three guest speakers in the morning followed by luncheon and two or three panel discussions. Dr. Hundley agreed to contact Senator Harry F. Byrd as a possible speaker at a proposed public session. Attending the conference by invitation should be members of the District Council, council members, and presidents, secretaries, and public relations committee chairmen of the component societies.

Upon the suggestion of Mr. Howard, the committee decided that an exhibit suitable for display at fairs, conventions, etc. might be created. Dr. Davis favored the use of a model electric train as a feature in a theme concerning medical service. A booth equipped to take blood pressure readings or detect diabetic conditions was also mentioned. It was determined that the scales-obesity subject should be tried possibly with the Metropolitan Life Insurance Company supplying some helpful information.

Dr. King next presented the idea of promoting the AMA plaque to be used in physicians' offices. It was agreed that order envelopes should be secured and distributed to the Society membership. Mr. Howard was so instructed.

Pointing out that practically every city was establishing a night emergency call system, it was added that too many physicians are neglecting their duty by not cooperating in such systems. The committee directed that relative kit material be sent to all component societies.

Mr. Howard outlined briefly the method by which the Tennessee State Medical Association conducted a course for doctors' secretaries aimed at improving office public relations. The committee thought a similar plan might be tried in Virginia. Dr. Davis revealed that the Lynchburg Academy of Medicine was presently preparing to sponsor such a lecture

series at a cost of \$38.50 per person to be conducted by a professional instructor.

Pointing out the plans of the Virginia Chapter of the American Academy of Pediatrics to establish its own public relations body, the committee was of the opinion that any public relations effort might prove more effective if directed through the local medical society.

A general discussion ensued regarding the public relations objectives of AMA. Emphasis was placed

on various Virginia problems as the night call situation; voluntary health insurance promotions; excessive fees and the publication of the existence of grievance committees. Also stressed was the opinion that hospital service under Blue Cross was being over-used.

Following the suggestion that Mr. Charles Lively and Dr. Frank J. Holroyd of West Virginia be invited to participate in the April P. R. conference, the meeting adjourned.

BOOK ANNOUNCEMENTS

Spatial Vector Electrocardiography. By ROBERT P. GRANT, M.D., and E. HARVEY ESTES, JR., M.D. 1951. The Blakiston Company, Philadelphia, New York and Toronto. 41 Figures; 149 pages. Cloth. Price \$4.50.

This small volume is not a complete text on electrocardiography. In fact, it deals solely with the QRS and T deflections from the spatial vector point of view. The objective is to teach the average physician how to utilize the spatial vector method as a supplement to the "pattern" method of interpretation, and how to do this without intricate calculation or additional apparatus.

One can commend this stimulating treatise and at the same time suspect that its appeal will be limited and that "pattern" interpretation alone will be predominant during the foreseeable future.

E.A.D., JR.

Cortisone and ACTH Used to Treat Skin Diseases.

The successful use of cortisone and ACTH to relieve the symptoms of 13 various skin inflammations and diseases was reported in the Jan. 5th J.A.M.A. by Drs. Robert R. Kierland, Paul A. O'Leary and Louis A. Brunsting of the Mayo Clinic and Dr. John W. Didcott of the Mayo Foundation, University of Minnesota.

The article stressed, however, that the hormone drugs did not cure the afflictions, and should not be used promiscuously, without knowledge of their

physiological effects and dosage, and of the influence of infection on those receiving such treatment.

The drugs, according to the report, appeared to buffer or to shield the target tissues from the provoking agent, and, because of this, suppressed many of the serious disabling symptoms of the diseases. They also aided in reducing the itching, which permitted more rapid healing of the lesions.

In addition, many of those persons treated with cortisone and ACTH showed mental stimulation and mental buoyancy, felt full of pep, were much more active and had increased appetites.

Some of the patients, however, were unable to sleep well, appeared anxious and agitated, and experienced slight and transient changes in their mental stability. Cortisone also tended to suppress the symptoms and surface signs of infectious diseases, which prevented the recognition of unexpected infections. Some patients, the report stated, did not obtain any relief from the drugs.

Recurrences of the symptoms of the diseases and inflammations were noted in many cases shortly after administration of the drugs ceased, according to the four Rochester (Minn.) dermatologists who made the report.

"For the majority of patients with dermatosis, the courses of treatment were short, and significant physiological alterations were seldom seen," the doctors stated.

"In all cases an effort should be made to find the minimal maintenance dose that provides suppression and relief symptoms."

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.,
State Health Commissioner of Virginia.

Whooping Cough.

According to reports to the State Health Department, the occurrence of whooping cough in Virginia was relatively low in 1951 with the highest incidence in the late winter and early spring. Experience teaches that epidemics may be expected to occur at two to four year intervals when a sufficient number of susceptibles collects. It is quite possible that 1952 may be a year of high incidence. Since young infants are particularly susceptible and are subject to high mortality, it is at this group that preventive measures should be aimed.

The accompanying table shows that for each year (except 1950) the number of deaths of children under one year of age constitutes a substantial majority of all deaths from whooping cough. With this fact in mind, physicians should remind parents of the importance of the early administration of whooping cough vaccine.

WHOOPING COUGH DEATHS IN VIRGINIA
1941-1950

Year	Total	Under 1 Year	Percent Deaths Under 1 Year
1950	48	23	47.9
1949	33	25	75.8
1948	41	34	82.9
1947	62	46	74.2
1946	57	40	70.2
1945*	72	45	62.5
1944	102	74	72.5
1943	126	84	66.7
1942	102	77	75.5
1941	196	122	62.2

*Mortality figures for 1941-45 include deaths occurring in Virginia regardless of usual residence.

Active immunization may be started as early as the second month of age and should be completed by the sixth month. Whether whooping cough vaccine is used alone or in combination with diphtheria and tetanus, three doses are indicated at four week intervals. It is generally held that the triple combination increases the effectiveness of the toxoids.

As far as possible young infants should be protected from exposure to whooping cough. When, however, the non-immune infant is exposed, passive protection may be given by the intramuscular injection of immune rabbit serum, hyperimmune human serum or gamma globulin.

In the treatment of whooping cough the antibiotics (notably aureomycin) have proved effective in lessening the severity of paroxysms and shortening the duration of the disease.

The early immunization of infants plus the widespread use of the antibiotics, have been the prime factors, we believe, in the lowered mortality from whooping cough in recent years.

MONTHLY MORBIDITY REPORT OF THE BUREAU OF
COMMUNICABLE DISEASE CONTROL

	Dec. 1951	Dec. 1950	Jan.- Dec. 1951	Jan.- Dec. 1950
Brucellosis -----	5	6	81	66
Diarrhea and Dysentery ----	213	98	3,160	3,740
Diphtheria -----	27	19	194	192
Measles -----	517	274	14,510	2,959
Meningitis (Meningococcal) .	7	10	117	124
Poliomyelitis --	16	44	267	1,200
Rocky Mountain Spotted Fever	3	2	63	77
Scarlet fever -----	89	119	990	937
Tularemia -----	5	7	40	44
Typhoid and Paratyphoid ----	6	4	69	88

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,

*Commissioner, Department of Health Hygiene and Hospitals.***The Clinical Psychologist in the Psychiatric Clinic***

The role of the clinical psychologist in the psychiatric clinic is rapidly approaching three major areas of professional proficiency: diagnosis, research and therapy. The first of these areas, diagnosis, refers to the broadening concept of testing. This includes the evaluation and interpretation of how man relates in his efforts to adjust to society and what effect press events within the environment have on his internal dynamics. The primary functions of diagnostic testing are evaluation and interpretation. Psychological evaluation is a process of judging the effectiveness of the individual's efforts in adjustment to bring into harmony internal desires and strivings with external pressures and demands of society. Although it uses tools of measurement, evaluation is not synonymous with measurement. The term implies not only "how much" but "of what value". It is this emphasis on value that differentiates evaluation from measurement. Important as it has been for psychology to evaluate numerically and quantitatively the general function of intelligence, we can come to understand how the individual uses his mental equipment only through quantitative and qualitative evaluation of his unique style of thinking and his thought organization. The intelligence quotient represents a numerical relationship and a location point on a statistical scale of measurement. Merely knowing I.Q. rating reveals little more than an index of the mental ability of the individual. Two children of the same age, with approximately the same growth characteristics and of the same I.Q. rating, may be vastly different in success of school achievement and in personality make-up. The common factor in I.Q. rating gives a frame of reference for expected learning achievement. So many other factors enter into the area of psychological evaluation, a single quantitative result is inadequate. We think of the evaluation of the individual through a wide variety of testing techniques, including objective tests, pro-

jective tests and clinical observations under standard procedure. Evaluation starts with the premise that an individual's structure of character configuration, his unique thought organization, his fixed and changing sense of values, and his deeply ingrained prejudices, attitudes and feeling tones can be observed in his persistent and enduring manifestations of behavior reactions in response to stress situations. The psychologist seeks to gain insight into basic conflicts; is able to get clues to the particular reactions of the individual, to his inner organization and his unconscious conflicts by using a battery of selective tests. The psychological study is primarily concerned with how the individual perceives his world, how he organizes his thoughts and experiences, and with his potential capacities for thinking, perceiving and organizing. It is concerned with the sources of the individual's fears, feelings, conflicts and his emotional strengths and weaknesses. Through the use of tests the psychologist gains knowledge of the individual's skill in learning, the configuration of his intellectual functions, his attitudes toward people and things, and his capacity to transform external stress experiences into personal creative experiences. Each individual retains within his internal self-organization a residue of the experiences and feeling he has had during his early struggle between forces of inner desires and environmental demands. This is true even when controls have been modified by patience and affection. It is by these and all other vital experiences that the growing individual unconsciously builds his unique pattern of character organization and his own systems of reaction or of means to an end. Sometimes this inner system of reactions may be distorted, out of touch with reality, or basically opposed to survival. So far as the individual is concerned, these patterns of reaction represent his attempts to the solution to anxiety-producing conflicts. Interpretations are based on behavior and/or thinking characteristics which occur frequently and persistently throughout the psychological study. These are implications from which prediction can be made of behavior or thought char-

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acteristics. Interpretations can be checked by refined observation.

Diagnostic conclusions are descriptive evaluations of mechanisms and dynamics associated with the symptoms or symptom complexes contained in the nosology of pathological adjustments.

The second major area of the clinical psychologist is that of research. Of the disciplines in the field of mental hygiene the psychologist has been the most oriented, by the nature of core training, to the field of research. This core training is the common knowledge of all psychologists whether clinical, industrial, social, educational, physiological or any other branches of psychology. The core forms the background of knowledge in the field and includes a general knowledge of psychological theories and research beginning with the early philosophical aspect of the study of human behavior. This dealt with ethical postulates on the spiritual attributes of the soul, the nature of man's free will and the ethical value of intelligence. The empirical experimentation with biological and sensory data through the struggles of the interrelationists and the behaviorists who sought to understand the mechanisms of behavior dealt in stimulus response mechanisms and theories of casual-effect relationships. These three aspects of psychological study were concerned with the functioning of man's faculties and the outer manifestations of behavior rather than with man himself. Man was split into his component parts and little was known of the internal mechanisms of emotions, motivation or the pattern structure of character. It was not until the beginning of the nineteenth century that the focus of investigation centered on man himself. Not until Freud's discovery of the unconscious and effect of internal motivating forces of man's instinctive desires on external manifestations of behavior was man, himself, actually studied.

This background knowledge, of the historical sequence of the development of psychological concepts and the thorough understanding of contemporary schools of thought, gives to the psychologist an experimental, oriented point of view. Definite courses in experimental methods and procedures in which statis-

tical concepts are evaluated and standard procedures of observation are handled prepares the psychologist to accept the role of research. Research in the psychiatric clinic can be best handled by the disciplines in the field who actually come in close contact with individual problems of adjustment. Because of this core training we may assume that the major burden of research in the field work of mental hygiene will be carried by the psychologist.

The third major area of the clinical psychologist is that of therapy. The knowledge and the understanding of developmental psychology: child, adolescent, and adult, with particular attention to the genesis of growth levels and individual differences, gives to the psychologist a knowledge of expected and normative behavior, establishing a sensitivity to deviate and pathological manifestation. Further, although the functions of therapy are different from the diagnostic study and research, through the sensitivity to diagnosis and prognosis, the psychologist becomes more aware of what is involved in the therapeutic relationship. The psychologist has long been associated with remedial aspects of special disabilities, techniques of guidance and counseling and with the basic needs of the individual. Liaison has already been established with the schools on a consultant basis. In the core training of the educator and of the psychologist a common field of knowledge in the experimental methods of learning, motivation and perception have brought these two professions in close association. The concepts of individual differences, the wide spread use of testing techniques in the field of education and the close scrutiny of each profession on the behavior aspects of adjustment related to emotional, social and growth needs of the child has given these two professions common understandings in relation to the growth and development of the individual child.

We see the psychologist as rapidly emerging to professional status in the three major areas of diagnosis, research and therapy in the psychiatric clinic setting. In widening the scope of professional services, however, the approach must remain primarily within the area of its psychological identifications.

EDITORIAL

A Medical Map of Historic Virginia

VIRGINIA has become such a mecca for medical conventions that a guide for medical sightseers seems timely. We have made a list of places that should be of value to those interested in the history of medicine, and the State Department of Conservation and Development has kindly made for the MONTHLY a map which shows the location of these places and the roads leading to them. We suggest that the tourist get the booklet "State Historical Markers of Virginia" since many of the places have descriptive highway markers. It may be had for the asking by applying to the Virginia Department of Conservation and Development, Richmond, Virginia.

The first settlers of Virginia had two widely different origins. Those east of the Blue Ridge Mountains came directly from overseas. The great majority were English, but there was a good sprinkling of Huguenots and other groups. They were deep water pioneers, who kept their communication with the outside world by means of sailing vessels, and they continued their way of life as much as the frontier conditions would permit. Those west of the Blue Ridge came down the Valley of Virginia from Pennsylvania. They were chiefly Scotch-Irish and Palatine Germans and were isolated and self contained. The two groups differed in many ways—in religion, in politics, and in medicine. Compare, for instance, the work of William Baynham and Peter Mettauer of eastern Virginia with that of Jesse Bennett and Ephraim McDowell beyond the mountains. (Mettauer adopted lead sutures as soon as Diffenbach's report on staphylorrhaphy appeared in the *London Lancet*.)

E-68. The first point of medical interest in eastern Virginia is Mt. Vernon. Here on December 14, 1799 Washington died of "cynanche trachealis". He was attended by Drs. James Craik, Elisha Dick, and Gustavus Richard Brown. The treatment consisted of copious bleeding, which was the accepted procedure at that time. This treatment was subsequently criticised, especially by lay biographers. Blanton¹ and more recently Tom Keys and Frederick A. Willius² have discussed Washington's death from a medical standpoint.

E-72. Pohick Church was the chief church of Truro parish of which the Rev. Charles Green, M.D. was rector. Rev. Green was one of the few examples in colonial Virginia of parson-physician, a class that was so common in New England. Just where he lived we do not know, but it was close enough to Mt. Vernon for him to attend Mrs. Washington in 1760 when she had the measles. Also in Fairfax County and on the Potomac is the birthplace (unmarked) of Nathaniel Chapman the celebrated editor of the American Journal of the Medical Sciences.

E-59. At Occoquan, in 1828, an irregular practitioner of Fairfax County performed a cesarean section and, for the first time in the United States and the second time in the history of the world, sutured the uterine incision. The operation was witnessed by Dr. M. L. Weems who reported it in the American Journal of Medical Sciences³. We have not been able to identify the house in which this remarkable operation was performed.

The first case of American hook-worm, *Necator Americanus*, was a Westmoreland County farmer⁴.

E-45. In Fredericksburg, Dr. Hugh Mercer's apothecary shop is still standing. George Washington kept a desk here from which he transacted his business when in this part

of his "district". General Mercer's military fame transcends his medical accomplishments. He was mortally wounded at the battle of Princeton.

J-39. Here on May 2, 1863 Stonewall Jackson was wounded. He was taken to a tent in the field hospital on the Lacy farm near the Wilderness Tavern, where Dr. Hunter McGuire amputated his left arm under light chloroform anesthesia. The anesthesia was so light that General Jackson felt the sawing of the bone although he said afterwards that it did not hurt. The arm was interred in the Lacy front yard and a small stone inscribed "Arm of Stonewall Jackson, May 3, 1863" was placed to mark the spot. Known today as "Ellwood", the former Lacy House is now owned by Dr. Gordon Jones of Fredericksburg and his parents.

6. After the operation, Jackson was removed to the office of the Chandler place at Guinea Station where he died of pneumonia. The question whether this was a post-anesthetic or a septic pneumonia has been raised. The latter seems to be the more likely diagnosis.

7. In Essex County, near Loretto, lived (placed unmarked) William Baynham (1749-1814) who in 1790 and in 1799 performed successfully the second and third laparatomies for ectopic pregnancy. Dr. Baynham's reputation among early American surgeons was second only to that of Philip Syng Physick.

Dr. Baynham was born just above Loretto, near the fork of the road at Hustle. (unmarked).

J-86. In the church yard are buried "King" Carter and his five wives, mute evidence of the high maternal mortality of colonial Virginia.

N-77. At Stingray Point in 1608, Captain John Smith was wounded in the arm by a stingray. His wound was treated by Dr. Walter Russell, a physician. The case is interesting for two reasons: Not only was the patient a V(ery) I(mportant) P(erson), but it illustrates how quickly the frontier did away with the artificial but strict barriers between physicians, surgeons, and apothecaries that existed in Europe at the time.

NW-6. Five miles to the west of here at Belroi near Gloucester C. H. was born Dr. Walter Reed on September 13, 1851. The place is owned and cared for by The Medical Society of Virginia.

W-92. In this casemate in Fortress Monroe, Jefferson Davis was confined from May 22 to October 2, 1865. His physician was Dr. John J. Craven. Dr. Craven's career was discussed by Dr. Chester Bradley at the 24th annual session of the American Association of Medical History.

11. At Ferry Point the first Marine Hospital in the United States began operation in 1800.

Q-8-h. The Portsmouth Naval Hospital is the oldest hospital of the Navy.

K-238. Half a mile to the north, stood the Warrascoyack Indian village, where Capt. John Smith obtained corn for the starving colonists in 1608. In the first years nutritional diseases very nearly destroyed the early settlers.

12. In the old church at Jamestown, The Medical Society of Virginia has erected a marble tablet to the memory of Dr. John Pott. He was at one time Governor of the Colony.

13. Williamsburg was the center of a great deal of medical activity towards the end of the Revolution. There were two hospitals for wounded French soldiers in the

town and in the immediate vicinity there were small-pox and other military hospitals. The Eastern State Hospital has been operating since 1773. It is the oldest Hospital for the insane in the United States. In 1779 when Thomas Jefferson reorganized William and Mary College, he established a medical department. Dr. James McClurg was professor of anatomy and medicine.

14. At Henricopolis opposite Dutch Gap was built the first hospital in British America. It was destroyed in the Indian massacre of 1622.

15. At Richmond is located the Medical College of Virginia and the Miller Library of "Old Medicine" of the Richmond Academy of Medicine. Here Dr. Valentine H. Taliaferro performed the first episiotomy in America on December 2, 1851⁵. On Chimborazo Hill the Confederate Government had the largest hospital in the world.

I-6. At Petersburg is located the Central State Hospital, the earliest institution for Negro insane. Petersburg was the first locality to establish a board of health (1780) antedating New York, Baltimore and Boston.⁶

SM-2. Union Academy. Dr. Walter Reed attended school here.

F-70. Sick and wounded French soldiers were treated here after the Revolution.

F-69. Randolph-Macon Medical School. Between Kingsville (F-70) and Worsham (F-65) lived the celebrated John Peter Mettauer who established a number of operative technics. His operation for vesico-vaginal fistula was essentially the one that Marion Sims later used which brought Sims fame and fortune. Here Dr. Mettauer had a hospital and a medical school. He is buried in the nearby Hampden-Sydney Cemetery, where The Medical Society of Virginia has erected a stone to his memory.

W-204. Castle Hill was the home of Dr. Thomas Walker, physician and explorer. He was the preceptor of William Baynham and the first white man to lay eyes on the land we call Kentucky.

I-3. The University of Virginia was founded by Thomas Jefferson. Here Robley Dunglison wrote the first American book on Human Physiology and here was born Thomas Addis Emmet, a pioneer in gynecology.

W-200. At Monticello, Thomas Jefferson pursued scientific and agricultural studies. He was largely instrumental in the introduction of smallpox vaccination in this country (Halsey, Robert H., *How the President, Thomas Jefferson, and Dr. Benjamin Waterhouse established vaccination as a public health procedure*. History of Medicine Series of the New York Academy of Medicine, 1936).

T-11. Here in 1866 Dr. Mahlon Loomis, dentist, sent the first wireless message.

19. Winchester is the birthplace of Dr. Hunter McGuire. Here also was a medical school for many years. It was chartered under the name of the Medical School of the Valley of Virginia. The faculty consisted of Drs. Hugh Holmes McGuire, John Esten Cooke, and A. T. Magill. In 1829 Dr. Cooke went to Lexington, Kentucky to succeed Daniel Drake at Transylvania, and Dr. Magill went to the University of Virginia, and the Valley school closed for the want of a faculty. In 1847 the college was revived under the name of the Winchester Medical College. It went out of existence in March 1862 under peculiar circumstances. The excitement incident to John Brown's raid led some of the students to Harper's Ferry. They found a body beside the river and shipped it back to the school where it was prepared for dissection and used for teaching. The body proved to be that of Owen Brown, John Brown's

son. When the Federal army entered Winchester it sent the body north and burned the College.

Q-2-a-b. Dr. Walker's exploring expedition started from here in 1748.

20. At Fisherville can be seen the extensive buildings of the 1900-bed Woodrow Wilson General Hospital which at the end of World War II became a white elephant. Part of the buildings and grounds are now used by Augusta County for a high school and another part by the State Board of Education as a civilian vocational rehabilitation school.⁷

Z-111. Augusta County, at the time Ephraim McDowell migrated to the west, embraced the entire State of Kentucky.

21. Staunton was the home of Dr. Alexander Humphreys, the preceptor of William Wardlaw, Samuel Brown, and Ephraim McDowell. He was the consultant in the celebrated case of Mrs. Jesse Bennett.

22. At Edom was performed the first cesarean section in the United States (14 Jany. 1794). The patient was the wife of Dr. Jesse Bennett. Dr. Humphreys was consultant in the case and when forceps failed he recommended either craniotomy or cesarean section. Mrs. Bennett chose the section and when Dr. Humphreys refused to operate, Dr. Bennett was forced to do it himself. He saved both mother and child.

A-45. The birthplace of Ephraim McDowell. Near here was also born his heroic patient, Jane Todd. She married Thomas Crawford at Lexington, Va. and the ceremony was performed by Rev. Samuel Houston, a relative of the liberator of Texas, who was also a native of this region.

I-4. Catawba Sanatorium.

K-29, K-35, K-21, K-49, K-15, K-3, and K-1. The Wilderness Road. Dr. Walker's expedition to Kentucky marks the route followed by Ephraim McDowell when he went west and when he returned to study under Dr. Humphreys and to go to the University of Edinburgh.

26. Tazewell, formerly Jeffersonville, the birthplace of Dr. George Ben Johnston.

BIBLIOGRAPHY

"The Annals of Medical History" for January and February 1938 has eight well illustrated articles and an editorial on medicine in Virginia.

Wyndham Blanton's three volume "History of Medicine in Virginia" is an invaluable guide.

The chapter on medical sciences in "The James River Basin, Past, Present and Future" of the Virginia Academy of Science, Richmond (1950) locates many points of medical interest in the James River Valley.

"State Historical Markers of Virginia" is a useful volume for the tourist to have at hand. There is no charge for the booklet.

1. Medicine in Virginia in the Eighteenth Century. p. 305.

2. Proc. Staff Meet. Mayo Clin. Feb. 1942.

3. 18:257, 1836.

4. Am. Med. 3:777, 1902. Phil. M. J. 7:1251, 1901.

5. Garrison, Fielding H. and Morton, Leslie T. A Medical Biography. London, 1943. p. 339.

6. Southern Medicine & Surgery. 113:308, 1951.

7. Virginia M. Monthly 75:587, 1948.

SOCIETY PROCEEDINGS

The Virginia State Board of Medical Examiners

Announces the following list of applicants who were licensed by the Board at its regular examinations, December 6-8, 1951:

BY ENDORSEMENT OF CREDENTIALS

Dr. Charles William Anderson, Norfolk.
 Dr. Gayle Gardner Arnold, Richmond.
 Dr. Marvin R. Batchelor, Richlands.
 Dr. Roland Essig Bieren, Falls Church.
 Dr. Delos White Boyer, Norfolk.
 Dr. C. Howard Cain, Clifton Heights, Pa.
 Dr. Gordon Frank Cavell, Victoria.
 Dr. Sarah Cook, Arlington.
 Dr. Clem Casper Crossland, Jr., Crewe.
 Dr. James Christopher Curry, Mt. Calvary, Wisc.
 Dr. James Seay Dean, Marion.
 Dr. Chester William Dewalt, Jr., Virginia Beach.
 Dr. Abraham Henry Dunn, Petersburg.
 Dr. Alto Edmund Feller, Charlottesville.
 Dr. Dante John Feriozi, Arlington.
 Dr. Elwood Eugene Fisher, Norfolk.
 Dr. Robert Irving Fleming, Amonate.
 Dr. Zenas Waldo Ford, Jr., Hilton Village.
 Dr. George Leonard Gee, Richmond.
 Dr. Count Dillon Gibson, Jr., Richmond.
 Dr. Sidney A. Haber, Richmond.
 Dr. Robert C. Hagan, Roanoke.
 Dr. Florine Kirk Hampton, Portsmouth.
 Dr. William Vanbrooks Harrison, Hillsville.
 Dr. Paul Cornelison Hendrix, Wytheville.
 Dr. William Stuart Hotchkiss, Norfolk.
 Dr. William Coolidge Humphries, Woodstock.
 Dr. Joseph Leonard Jones, (C) Williamsburg.
 Dr. William Aloysius Klausman, McLean.
 Dr. Charles Roger Lyons, Blacksburg.
 Dr. Gordon Rhodes MacDonald, Falls Church.
 Dr. Karl Lee Manders, Charlottesville.
 Dr. Albert E. Marland, Washington, D. C.
 Dr. Jackson Thorne Marland, Chevy Chase, Md.
 Dr. Allan McNeill McKelvie, Washington, D. C.
 Dr. Grantland Sheppard Miller, Raven.
 Dr. Harry Joseph Minarik, Salem.
 Dr. Henry Frederick Wm. Mohrmann, Jr., Madison.
 Dr. William Aloysius Moran, Jr., Clinchco.
 Dr. Roscoe Searls Mosiman, Arlington.
 Dr. Arthur John Muller, Norton.
 Dr. William Duncan Owens, Warrenton.
 Dr. Mary Gearin Robbins, Radford.
 Dr. James Mebane Robertson, Roanoke.
 Dr. Joseph Norris Rose, Chatham.
 Dr. Meyer Rosenbaum, Arlington.
 Dr. Dean Schufeldt, Oakland, California.
 Dr. Joseph Charles Smith, Washington, D. C.

Dr. Stanley Edward Smith, Jr., Charlottesville.
 Dr. David George Spence, Charlottesville.
 Dr. Lawrence Jago Stetson, Suffolk.
 Dr. Montgomery Alexander Stuart, Roanoke.
 Dr. Cary Grayson Suter, Charlottesville.
 Dr. William Thurman Watkins, Jr., Newport News.
 Dr. Walter Albert Werner, Gate City.
 Dr. Frank Bean Whitesell, Jr., Arlington.
 Dr. Philip Abney Wilhite, Jr., Portsmouth.
 Dr. Paul R. Wilner, Washington, D. C.
 Dr. Arthur Lavergne Wilson, Winchester.
 Dr. Wendell T. Wingett, Radford.
 Dr. Norman Francis Wyatt, Boston, Mass.
 Dr. John J. Yaeger, Clifton Forge.
 Dr. William Hurlburt Young, Jr., Arlington.
 Dr. Walker P. Youngblood, Petersburg.

BY EXAMINATION

Dr. Philip Austin, Alexandria.
 Dr. William Walter Beckner, Jr., Rockbridge Baths.
 Dr. Andrew Robert Wilson Climie, Covington.
 Dr. William Edmund Craddock, Charlottesville.
 Dr. Andrew Davis, Williamsburg.
 Dr. Harry Norman Ein, Union, New Jersey.
 Dr. John David French, Roanoke.
 Dr. Robert Finley Gayle, Richmond.
 Dr. Kenneth Martin Heatwole, Richmond.
 Dr. Benjamin Harrison Hines, Newport News.
 Dr. William Stephen Hitrec, Floyd.
 Dr. Eugene Bell Linton, Wilmington, N. C.
 Dr. John Hoover Moon, Philadelphia, Penn.
 Dr. Esmond Douglas Vere Nicoll, Charlottesville.
 Dr. Nathaniel Fulford Rodman, Jr., Norfolk.
 Dr. Edward Akira Sawada, Charlottesville.
 Dr. Frederick John Spencer, Christiansburg.
 Dr. Virginia Claire Tusing, Vienna.
 Dr. Chester LeeRoy Wagstaff, Philadelphia, Penn.

Three Chiropractors were also licensed.

Richmond Academy of Medicine.

At the meeting of the Academy on December 11, Dr. Charles L. Outland was named president-elect for 1952, and Dr. William R. Hill and Dr. John Robert Massie were elected vice-presidents. Dr. Guy W. Horsley succeeds Dr. Kinloch Nelson as president. Two new members elected to the Board of Trustees are Dr. William R. Morton and Dr. Paul D. Camp. The regular Christmas party followed the meeting.

The Danville-Pittsylvania Academy of Medicine

Held its regular monthly meeting December 14, at Hotel Burton, Danville. The Academy was ad-

dressed by Dr. Richard Ames, Neuro-surgeon of Greensboro, North Carolina, on the subject of Intra-Cranial Aneurysm.

At this meeting the Academy installed new officers for the year 1952. The newly elected officers are as follows: President, Dr. Donald Lurton Arey; vice-presidents, Dr. Allen L. Byrd and Dr. Betty Whitehead; secretary-treasurer, Dr. John R. Eggleston (re-elected), all are of Danville.

The Medical Society of Northern Virginia

Met at Woodstock in Shenandoah Memorial Hospital on December 11, Dr. George Long of Luray presiding. There were about fifty physicians in attendance and an interesting program was enjoyed. At a business session, Dr. Frank Tappan of Berryville was elected to the presidency and Dr. F. W. Gearing, Jr., was re-elected secretary-treasurer.

The Orange County Medical Society,

At its meeting on December 28, voted unanimously to increase charges for professional services, beginning January 7, to make their rates conform with those in other localities. At this meeting Dr. David H. Miller of Orange was elected president, succeeding Dr. H. C. McCoy of Gordonsville. Dr. J. D. Middlemas of Orange was named as vice-president, and Dr. J. Garnett Bruce of Gordonsville was re-elected secretary-treasurer.

Lynchburg Academy of Medicine.

The December meeting of the Academy was a business one at which the following were elected officers for the ensuing year: President, Dr. E. S. Groseclose; president-elect, Dr. Clarence E. Keefer; vice-president, Dr. J. E. Haynesworth; trustees, Dr. George B. Craddock, Dr. Robert H. Cox and Dr. John R. Saunders. Delegates and alternates to the next State meeting were also elected.

Roanoke Academy of Medicine.

At the January meeting, papers were presented as follows:

Past, Present and Future Program of the Health Department—Dr. J. N. Dudley.

The Roanoke Guidance Center—Dr. Gilbert J. Rich.

Several new members were admitted at this time.

Dr. Ira H. Hurt is president and Dr. Philip C. Trout secretary.

Albemarle County Medical Society.

At the meeting of this Society on January the 3rd, Dr. McLemore Birdsong was elected president, succeeding Dr. George Cooper, Jr. Other officers elected at this time were Dr. Thomas S. Edwards as vice-president and Dr. Armistead P. Booker as secretary-treasurer. All officers are of Charlottesville.

NEWS

The American Academy of General Practice

Is to hold its 1952 scientific assembly in Atlantic City, N. J., March 24-27. The delegates will gather earlier for pre-assembly meetings.

Dr. R. B. Robins of Camden, Ark., will be installed as new president of the Academy succeeding Dr. J. P. Sanders of Shreveport, La. Other officers for the current year are Dr. Fred A. Humphrey of Fort Collins, Colo., vice-president, Dr. William B. Hildebrand of Menasha, Wis., chairman of the Board of Directors, and Dr. U. R. Bryner of Salt Lake City, Utah, treasurer. Dr. J. S. Detar of Milan, Michigan, is speaker of the Congress of Delegates.

An outstanding array of speakers will present a varied program which will be of the utmost in-

terest to every general practitioner. Scientific exhibits, keyed to each lecture subject, is an innovation which promises the most satisfying results. Many of the 179 firms in the technical exhibit will also relate their exhibits to the scientific program.

On the Monday, March 24 program, Dr. John W. Cline, president of the A.M.A., Leonard E. Read, Louis B. Seltzer, and Rollen Waterson will discuss the relationship of the general practitioner and the public. Drs. O. Spurgeon English and Richard Kern are teamed up for important lectures on the "problem ages."

The question of "problem drinking" will be featured in a symposium on the Tuesday morning program. Mr. W. G. W. from Alcoholics Anonymous, Dr. Harold Lovell, and Seldon D. Bacon, Ph.D.,

will give lectures. Academy member Andrew S. Tomb will be moderator at a forum session with Mr. W. G. W., Drs. Lovell and Bacon, Rt. Rev. Clinton S. Quinn, D. D., George H. Gehrman, M. D., and Milton G. Potter, M. D., taking part. Lectures on obstetrics will be given by Drs. Robert B. Greenblatt, George J. Thomas, and M. Edward Davis. Dr. William Dameshek will speak on Anemia to complete Tuesday's program.

Six outstanding authorities will present Wednesday's program on Progress in Medicine. They are Drs. John C. Krantz, Jr., Julius H. Comroe, Wallace M. Yater, Cyril M. Macbryde, Hans Selye, and Jerome W. Conn. These six will make up an "Information Please" session with Dr. Harry Gold as moderator.

The final Assembly lectures will be on Orthopedics Thursday morning with Drs. William T. Green, J. Albert Key, David M. Bosworth, and Rex Diveley in charge.

A record attendance of 4,000 persons is expected at the Assembly's social highlight, the banquet, which will be held Wednesday evening. All sessions of the Assembly, the exhibits, and the banquet will be held in Atlantic City Convention Hall.

The New Richmond Eye Hospital,

At 408 North 12th Street, is expected to be opened about April 1st. At a recent meeting of the organization, Dr. Rudolph C. Thomason was elected president, succeeding Dr. W. Wallace Gill who had been president since its inception six years ago. Nathan Bushnell, III, administrator for the past year, was named secretary-treasurer. Dr. E. Tribble Gatewood and Dr. S. M. Cottrell were elected vice-presidents. In addition to these, the following were chosen as directors: H. H. Augustine, Dr. W. W. Gill, George E. Haw, Dr. L. Benjamin Sheppard, and Dr. B. Randolph Wellford of Richmond, and Dr. John W. Burke of Washington.

News from State Department of Health.

On January 1, 1952, Halifax and Pittsylvania Counties were combined to form the Halifax-Pittsylvania Health District with Dr. Leroy D. Soper as Health Officer. Offices are located in South Boston and Chatham.

Dr. Catherine H. B. Howell resigned as Health Officer of the Fluvanna-Goochland-Louisa Health District. She will assume duties as Health Officer

of the city of Danville on February 15.

Dr. William B. Harrison, Health Officer of the Carroll-Grayson Health District, and Dr. J. N. Rose, Health Officer of Pittsylvania County, have resigned their positions.

Heads Bombay Office, Parke-Davis & Company.

The retirement is announced of Mr. H. W. Fieth as general manager of the Bombay branch of Parke-Davis and Company and the appointment of Mr. W. O. Lloyd as his successor. Mr. Fieth has spent 45 years with Parke-Davis, mostly in India, and had been general manager of this office since November 1939. He and his wife will make their home in the British Isles. Mr. Lloyd has spent more than 25 years with the Company in India and was assistant to Mr. Fieth since January 1947.

News from University of Virginia, Department of Medicine.

Dr. Edward Valentine Jones, former Instructor in Neurology at the University of Michigan, has been appointed Assistant Professor of Neurology and Psychiatry at the University. Dr. Jones will be responsible for the direction of the laboratories of encephalography.

The Nemours Foundation of Wilmington, Delaware, has allotted \$9,800 to the University of Virginia Hospital for hospital and convalescent care of crippled children during the year 1952. An additional \$1500 has been allocated to the University of Virginia Speech and Hearing Clinic.

These gifts represent a phase of the program of the Nemours Foundation which has allocated \$39,000 for the development of services to crippled children in Virginia for the current year.

The Spring Congress

Of the Gill Memorial Eye, Ear and Throat Hospital will represent the Silver Anniversary of these Congresses, and will be held in Roanoke, April 7 to 12 inclusive. Registration will be at Hotel Patrick Henry, where luncheon will be served each day. The various clinics will be at the Hospital. On Tuesday afternoon, there will be a trip to Natural Bridge and on Wednesday evening a banquet at Hotel Roanoke. On this occasion there will be an address by Surgeon General Lamont Pugh, U.S.N., Washington, D. C.

Guest speakers who will hold the various clinics are prominent specialists from the various states and England.

Dr. Charles M. Caravati,

Assistant Professor of Clinical Medicine, Medical College of Virginia, Richmond, addressed the Medical Society of Northern Virginia at Woodstock on December 11 on the "Management of Gastro-duodenal Ulcer".

The Ex-Intern Association of Stuart Circle Hospital,

Richmond, met at the Hospital on November 13, Dr. C. C. Chewing of Richmond, presiding. Papers were presented by two Richmond doctors—Dr. Alexander G. Brown, III, "The Risk and Management of Cardiac Patients in Surgery" and Dr. E. W. Perkins on "The Diagnosis and Treatment of Glaucoma". The election of officers resulted in Dr. Hunter S. Jackson of Richmond being named president, Dr. Mark B. Williams of Williamsburg as vice-president, and Dr. John Edgar Stevens of Richmond succeeding himself as secretary-treasurer.

Seminar on Cancer Cytology.

The Division of Training of the Cancer Cytology Center of the Dade County Cancer Institute, an affiliate of the Medical Research Foundation of Dade County in Miami, Florida announces its second one-week seminar for physicians to be held at the Institute from April 21st-25th inclusive and immediately preceding the annual convention of the Florida Medical Association.

Instruction will be under the supervision of Doctor J. Ernest Ayre, Director of the Institute and its research staff. More than twenty outstanding local and visiting physicians and scientists will compose the faculty.

Interested physicians should direct their inquiries regarding qualifications, registration, fees and other details to the Director of the Dade County Cancer Institute at 1155 North West 14th Street, Miami, Florida. Applications for registration, limited to 35 physicians, will be accepted through April 19th.

Staff Change at Eastern State Hospital.

Dr. Isaac C. East recently resigned as clinical director of Eastern State Hospital, at Williamsburg, a position he had held for several years, to ac-

cept the superintendency of Spencer State Hospital at Spencer, West Virginia.

Dr. Eleanor Beamer-Maxwell, who has been with the Williamsburg Hospital for about ten years and serving as chief of the woman's division, has been appointed to fill the vacancy caused by Dr. East's resignation.

Dr. R. A. Vonderlehr

A native of Richmond who has for sometime been stationed with the Government in Atlanta, has been named director for Region IV of the Federal Security Agency, succeeding Dr. F. V. Meriwether, retired.

Petersburg General Hospital.

Dr. Fletcher J. Wright, Jr., was in January elected chairman of the Hospital staff, succeeding Dr. Carney Pearce. Elected to serve with Dr. Wright are Dr. T. B. Pope as vice-chairman, Dr. Nelson W. Smith as recording secretary, and Dr. Clyde W. Vick as vice-secretary.

Medical College of Virginia News.

Gifts and grants to the college since July 1 now total over \$530,000. Among recent gifts are: \$1500 to the Medical College of Virginia Foundation by Dr. William R. Laird of Montgomery, West Virginia; \$6750.00 in the will of the late Dean Wortley F. Rudd of the school of pharmacy for student loans in that school; \$2500 from an anonymous donor for the general student loan fund. The Pamunkey Woman's Club contributed a record player for Dooley Hospital for the children hospitalized there.

Mr. Emmet K. Reid, formerly in charge of admissions in the Hospital Division, has been appointed administrative assistant to the director. Mr. Reid will have charge of the Saint Philip Hospital. Mr. Reid succeeds Mr. Robert Crytzer, who resigned to accept the directorship of Westbrook Sanatorium on January 1.

The third course in hospital administration began on January 2. Enrolled are: John W. Bailey, Charleston, South Carolina; Thomas F. Cole, Ashboro, North Carolina; Robert A. Cramer, Hampton, Virginia; Thomas J. Curtis, Richmond, Virginia; Charles F. Farnsworth, Jr., Ashland, Virginia; Thomas W. Leggett, Charlottesville, Virginia; Joseph O. Walton, Richmond.

The corner stone of the new nurses' dormitory, Randolph-Minor House, was laid on December 7. This new facility will house sixty nurses. When funds are available three additional stories are planned.

The new dental building now under construction will be named The Wood Memorial Building in honor of the late Judd B. and Bettie Davis Wood, who bequeathed their estate, amounting to well over a million dollars, to the college in 1938.

The dental home coming was held January 28-29. A special bulletin, *Milestones*, carried the invitation and program for this celebration. The bulletin is designed as a memorial to the late Dean Harry Bear of the school of dentistry and carries the talks made at the presentation of his portrait to the college on January 26, 1951.

Dr. Frances A. Hellebrandt, Professor of Physical Medicine, resigned in December to accept the directorship of the Department of Physical Medicine of the University of Illinois. Dr. Walter J. Lee, Associate Professor of Physical Medicine, will have charge of the department of physical medicine, until a new head of the department is appointed.

Dr. William T. Sanger, President, has been chosen President-Elect of the National Society of Crippled Children and Adults.

Postgraduate Institute to Feature Television Program.

The 16th Annual Postgraduate Institute and Convention of the Philadelphia County Medical Society will be held April 1-4, at the Bellevue-Stratford Hotel. Arrangements are being made to televise special clinical programs from the Jefferson Hospital directly to the lecture hall at the hotel on Wednesday, Thursday and Friday mornings.

Among the subjects to be covered at this year's meeting are "Ear, Nose and Throat Problems"; "Obstetrics and Gynecology"; "Pediatrics"; "Surgical Problems"; "Dermatology" and panel discussions on "ACTH, Cortisone and Hydrocortisone", "Functional Problems in General Practice" and the "Stroke Problem".

There will be the customary Clinical Pathological Conference on Thursday evening as well as the large number of technical exhibits.

A preliminary program will be mailed out very

shortly. The Director of the Institute is Thomas M. Durant, M.D., 301 S. 21st Street, Philadelphia 3, Pa.

Office Available.

Doctor's or Dentist's office available immediately, corner Franklin and Harrison Streets, Richmond. Call 5-4397. (adv.)

Wanted—

One Resident Physician, \$225.00 per month, Two Rotating Interns, \$150.00 per month, 117 bed general hospital, newly opened. Apply in writing, Administrator, Louise Obici Memorial Hospital, Suffolk, Virginia. Appointments will be available July 1, 1952.

Wanted:

General practitioner, 2nd Assistant, for March vacancy on 8-Doctor Medical Staff in Southwestern Virginia mining town. Supplies furnished, no business expense. Extras and Salary give net income about \$900.00 per month. Good schools, living conditions. Not isolated. 3 bedroom furnace heated home. Prefer Doctor with family. Must be Sober, settled, non-addict, dependable and willing worker. Give availability and full information in first letter. Write Physician-in-Charge, Stonega, Virginia. (Adv.)

Wanted:

Man to do general practice with small group in Virginia hospital. Address "General Practice", care this journal, 1105 West Franklin Street, Richmond. (Adv.)

OBITUARIES

Dr. Arthur Broaddus Gravatt,

Widely known physician of Hanover County, died January 2 at his home at Ellerson. He was sixty-seven years of age and a graduate in medicine from the University College of Medicine, Richmond, in 1909. He was for many years a surgeon for the Chesapeake and Ohio Railroad and was a former member of The Medical Society of Virginia. On his sixty-fifth birthday, his patients gave him a surprise party and presented him a television set. His wife and several children survive him, one of them, Dr. A. B. Gravatt, Jr.

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GUEST EDITORIAL

Your Blue Cross Is In The Red

THE Virginia Hospital Service, your Blue Cross, was sponsored in Richmond by the Richmond Academy of Medicine in 1935 when the total number of Blue Cross subscribers nationally was less than 100,000. Today there are 340,000 people covered by the Richmond Blue Cross plan of pre-payment for hospital expenses, and over 700,000 are covered by the four Blue Cross plans in the State of Virginia with the national figure in excess of 42,000,000. In 1945 the medical-surgical plan was launched in Virginia. This is known locally and nationally as Blue Shield. Together these two non-profit organizations offer the medical profession's most dynamic argument against socialized medicine and the welfare state.

Blue Cross' growth has been phenomenal but with this increase in its availability to more and more people have come increasing problems. Blue Cross has no capital except the good will of hospitals and cooperating physicians. In the last five years its meager contingency reserves have been and are being seriously depleted and unless something is done, Blue Cross faces insolvency.

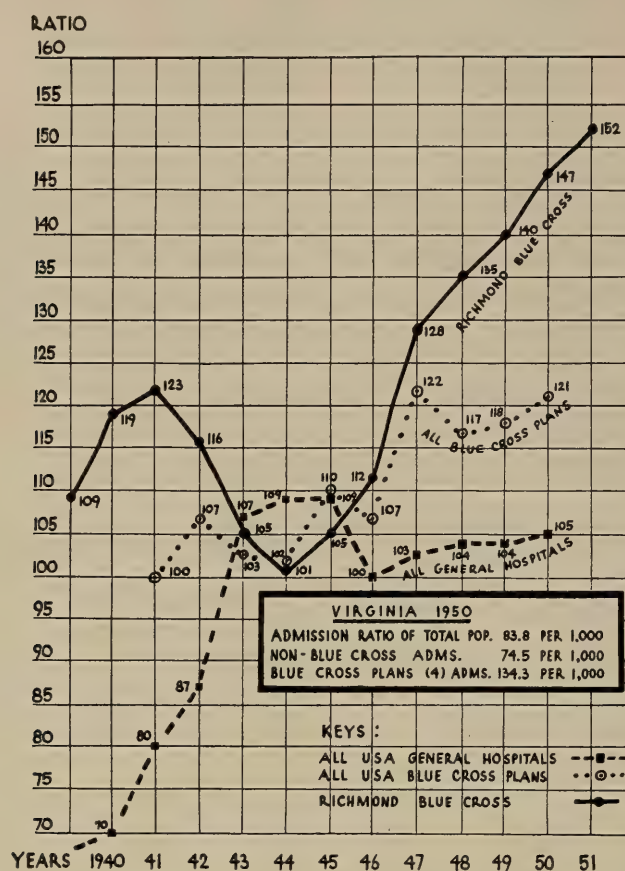
Now what are the factors which have made such a growing enterprise show signs of financial weakness. In the first place, rising hospital costs have actuated the hospitals to requesting and receiving increased payments for services rendered. To accomplish this Blue Cross has been forced to appeal twice in the last five years to the State Corporation Commission for an increase in subscriber premium rates, its only source of revenue. At neither appeal was it granted as much as it needed and consequently Blue Cross may again be forced to make a third appeal. This is an arduous, time consuming, and expensive task. Blue Cross is but an agent of the participating hospitals which is vitally affected by hospital economics. These have been discouragingly on the upward spiral with our whole national fiscal structure. This then is the upper mill stone of the grinding process.

The nether mill stone is the alarming increase of subscriber utilization. In the United States as a whole in 1950, 105 persons of every one thousand went to the hospital. Of the 25 per cent of the population enrolled in Blue Cross 121 per one thousand subscribers were hospitalized with only 100 out of every thousand not covered by Blue Cross. While the national picture is alarming enough, in 1950 the total hospital utilization for all population in the State of Virginia was 83.8 per one thousand persons. Among non-Blue Cross subscribers the rate was 74.5 per one thousand and in the four Blue Cross plans in the State of Virginia in 1950 the utilization was 134.3 per one thousand. In the Richmond plan 50 per cent more Blue Cross subscribers than non-Blue Cross subscribers out of every one thousand were hospitalized; that is, 147 per one thousand in 1950, while in the year of 1951 this figure has risen to about 152 per one thousand Blue Cross subscribers.

Thus over-utilization becomes the most alarming of the two factors in the Blue Cross

dilemma, alarming because it is self-destructive, and depressing because it vividly reveals a misunderstanding on the part of physicians and laymen of the great underlying

RATIO ADMISSIONS PER 1,000 POPULATION YEARS 1940 THRU 1951



ing principle upon which Blue Cross was founded; namely, a pre-payment plan for hospitalization to protect the subscriber from the catastrophic financial burden of illness and not to provide luxurious hotel accommodations with room and nursing service for those who are indisposed or who want temporary asylum from life's responsibilities and cares.

What then are the factors which have brought about the disastrous over-utilization. "I have had Blue Cross for ten years and never got back one cent" is a statement which confronts every physician frequently during the year. "How about putting me in the hospital for a few days? My maid is on vacation and there is no one to look after me at home." The patient may have nothing but a bad cold or a sprained ankle. The physician likes to help out his patients in every way possible but by acceding to this request he would be effectively sabotaging Blue Cross. Blue Cross does not cover for rest cures, diagnostic work-ups, medical observation, or treatment of alcoholic or other drug addiction.

Secondly, the physician has not been kept informed of Blue Cross problems and some are actually unaware of its purposes and the limitation of its use. He is unaware of his role in protecting Blue Cross from abuse and it is for this reason that the Vir-

ginia Hospital Service Association with its Blue Shield colleague is soon to distribute an educational brochure to acquaint him with it.

Other parts of the country report deliberate deception on the part of physicians in their effort to obtain Blue Cross coverage for their patients. To my knowledge this occurs only rarely in Virginia and then the abuse can usually be explained on the basis of misunderstanding. For example, a person who is hospitalized for a work-up is given a diagnosis of influenza or more frequently the patient begs the doctor to let him or her rest in the hospital a week longer than the illness requires. Another dodge is admitting a patient for a week or two prior to an operation which would ordinarily require one or two days of post-operative care. Finally the Blue Shield proviso that medical coverage cannot be allowed for hospital stays shorter than four days has kept patients in the hospitals longer than many require. Minor operations are paid for by Blue Shield without hospital admission.

The attending physician is the only one who can regulate hospital utilization and it becomes his duty not only to treat his patient with his best efforts but at the same time reserve for hospitalization only those who really need it. If he does not protect Blue Cross he may be responsible for its collapse and with it organized medicine's most effective answer to socialized medicine and the welfare state.

Therefore, in behalf of your Blue Cross we appeal to you to help us keep it out of the red by observing the following:

1. Do not hospitalize any patients who can be cared for in the office or at home.
2. Do not prolong hospitalization needlessly as a convenience to the patient or to yourself.
3. Do not hospitalize patients on a subterfuge as a mask to a condition not covered by Blue Cross.
4. Remind patients that their contracts do not cover rest cures, diagnostic studies or medical observation, treatment of alcoholism or addiction.
5. Remember that Blue Cross is your agent in helping your patient protect himself against catastrophic illness. It is your answer to socialized medicine. Blue Cross is worth protecting.

JOHN P. LYNCH, M.D.,
Secretary-Treasurer,
Virginia Hospital Service Association

RECOGNITION AND MANAGEMENT OF HYPOGLYCEMIC STATES WITH PARTICULAR REFERENCE TO ISLET CELL TUMORS OF THE PANCREAS*

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and

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Charlottesville, Virginia.

Introduction—The practicing physician frequently encounters patients with symptoms consistent with those seen in hypoglycemic states. These symptoms may vary from mild asthenia, dizziness and a general let-down feeling which are so frequently manifestations of psychoneurosis to more profound central nervous system manifestations of severe headaches, convulsive seizures, and coma. The causes of hypoglycemia may be many as shown in the classification taken from Conn (Table I).¹ No attempt will

reviews during the past three decades.^{1,3,4} The manifestations presented by these patients and the criteria for their diagnosis have been well established. In this paper we will present five cases of proven islet cell adenoma of the pancreas which demonstrate certain unusual features which have either not previously been described or have not been sufficiently emphasized.

CASE REPORTS

Case 1 (Mrs R. W.). This 56 year old white housewife was first admitted to the University of Virginia Hospital on April 29, 1943, complaining of fainting spells of four months duration. These attacks usually occurred in the early morning before breakfast, and on one occasion lasted more than two hours. There was complete amnesia for the attacks and on recovery she complained of considerable weakness and difficulty with her speech. Prior to the onset she had observed hunger but there was no definite history of food relief. These had become progressively more frequent and when first seen she was having seizures about every other day.

Her past history was that of good health. She had had known hypertension in the past.

On physical examination she was a well developed, quite obese female in no apparent distress. Funduscopic examination was normal. The blood pressure was 150/88. The lung fields were clear and the heart appeared normal. Neurological examination revealed no abnormalities.

The routine laboratory studies revealed a moderate microcytic anemia with 9.5 gms. of hemoglobin and 4.3 million red cells. Fasting blood sugars on two occasions were less than 35 mg.; however, on other occasions, even after fasting up to eighteen hours, blood sugars remained at normal levels. The five hour glucose tolerance test was of a high plateau type which at five hours had not returned to the

TABLE NO. 1

ETIOLOGIC CLASSIFICATION OF SPONTANEOUS HYPOGLYCEMIA (MODIFIED FROM CONN)

- I. Organic—recognizable anatomic lesion
 - A. Hyperinsulinism
 1. Pancreatic islet cell tumors
 2. Generalized hyperplasia of islet cells
 - B. Hepatic disease
 - C. Other causes
 1. Anterior pituitary hypofunction
 2. Adrenal cortical hypofunction
 3. Central nervous system lesions
- II. Functional—no recognizable anatomic lesion
 - A. Hyperinsulinism—autonomic imbalance
 - B. Other causes
 1. Alimentary hyperinsulinism
 2. Renal glycosuria
- III. Miscellaneous
 - A. Postoperative hypoglycemia
 - B. Inanition

be made to discuss the many disorders which may be associated with hypoglycemia. The functional types of hypoglycemia, in which there are no recognizable anatomic lesions, constitute about 90% of all cases of hypoglycemia.² Islet cell tumors of the pancreas, the most common cause of organic hyperinsulinism, have been the subject of several excellent

†From the Department of Internal Medicine of the University of Virginia Hospital.

*Presented in part before the annual meeting of The Medical Society of Virginia at Virginia Beach, October 7-10, 1951.

fasting level. Liver function studies were normal.

X-rays of the skull were normal. A flat plate of the abdomen revealed no pancreatic calculi, and the gallbladder series showed a poorly functioning gallbladder. Intravenous pyelograms showed bilateral hydronephrosis which was more marked on the right. Three small calcific densities were found to apparently lie within the right renal calyces and two were present within the calyces of the left kidney. The electrocardiogram showed changes suggestive of myocardial damage due to coronary disease; however, the heart was of normal size. The electroencephalogram showed slow waves arising from all portions of the cortex which were consistent with hypoglycemia.

It was difficult to keep the patient out of hypoglycemic shock and coma; however, she improved on a high protein diet, and was transferred to the surgical service with a tentative diagnosis of islet cell adenoma of the pancreas. At operation the gallbladder was found to be chronically inflamed, containing gallstones. A cholecystectomy was done. On palpation of the pancreas a small nodule was felt in the body which was excised, and on frozen section was found to be normal pancreas. It was then decided to do a subtotal resection of the pancreas; however, a great deal of bleeding was encountered and the operation was discontinued at this point. A liver biopsy revealed low grade hepatitis. Following operation the patient did well and had no further attacks of coma. Fasting blood sugars were normal and the glucose tolerance test gave the same diabetic type of response that had been obtained preoperatively.

The patient was seen again in June 1944, and at this time she had had no further difficulty due to symptoms of hypoglycemia. A five hour glucose tolerance curve at this time was normal, and blood sugars after prolonged fasting were normal. The patient was seen on several occasions during 1946 in the out-patient department, but at no time did she complain of symptoms of hypoglycemia. In the latter part of 1946 she had a right nephrostomy with removal of renal calculi at another hospital.

The patient was again admitted to the hospital in November, 1947, over four years after her first admission, with the history of attacks of coma of two hours duration occurring in the early morning during the previous three weeks. These episodes were described as being very similar to those for which

she was studied in 1943. Except for one fasting blood sugar of 45 mg., other blood sugar tests and glucose tolerance tests were normal. Prolonged fasting did not produce symptoms of hypoglycemia or abnormally low blood sugars. Renal and liver function tests were within normal limits, and x-ray of the skull was again negative. She was discharged on a high protein diet and was told how to take injections of aqueous adrenalin which in the hospital had been shown to abort the attacks long enough for her to take orange juice by mouth.

The patient's final admission was in January, 1949, at which time it was noted that her symptoms had become progressively more severe and she was having frequent episodes of coma and had had a number of generalized convulsive seizures. It had become necessary for her to take carbohydrate feedings almost continuously and a huge weight gain had ensued. At this time her fasting blood sugars were quite low, and even in the hospital it was difficult to keep her out of coma. She was again explored, and since no pancreatic tumor could be found a subtotal pancreatectomy was performed. Postoperatively, the blood sugar rose temporarily to the level of 130 mg., but subsequently resumed its previously low level. She was then placed on a high carbohydrate diet of 600 gm. daily in the hope of inducing diabetes in a partially depancreatized individual. When this proved unsuccessful it was decided to explore her again in the hope of finding a tumor in the pancreas or in aberrant pancreatic tissue. At operation on March 16, 1949, the pancreas was carefully exposed, and explored in minute detail and a small 1 cm. nodule was removed from the head of the pancreas. Microscopic examination confirmed the diagnosis of pancreatic adenoma. Immediately following the operative procedure the blood sugar reached a high level of 440 mg. and the patient went into a state of acidosis. This was corrected by insulin and appropriate electrolytes; however, she continued to do poorly and expired on the sixth postoperative day. Postmortem examination was not permitted.

Case 2 (Mrs. D. M.). This 60 year old white housewife was first admitted to the University of Virginia Hospital on August 17, 1950, complaining of fainting spells of two months duration. She had not recognized any definite relationship to fasting state, but on direct questioning she stated that they

seemed to be more prevalent prior to her evening meal and that she thought they had been aborted by taking food. There had been no attacks prior to breakfast or lunch. Her appetite was very good and there had been a gradual weight gain. She had been studied at a local hospital and her family was advised that the attacks were probably hysterical.

On examination she was found to be a well developed, moderately obese female who was in no acute distress. Funduscopy examination was negative. The lung fields were clear and the heart appeared normal. The abdomen was obese but no masses were present. Neurological examination was negative. The blood pressure was 145/80.

Routine urine and blood studies were normal. Fasting blood sugars were in the range of 50 to 60 mg. per 100 cc. Two five hour glucose tolerance curves were of the high plateau type. X-rays of the skull showed no abnormalities. The electrocardiogram showed changes consistent with myocardial damage due to coronary sclerosis. The electroencephlogram revealed no seizure discharges. The gallbladder series demonstrated a poorly functioning gallbladder containing stones. Tests of liver and adrenal gland function were normal.

On two occasions after prolonged fast, the patient became disoriented and made purposeless movements with her arms which were associated with pallor and profuse sweating. Blood sugars taken at these times were 34 and 39 mg. and there was immediate relief of symptoms by intravenous administration of glucose. There was complete amnesia for these attacks except for an aura of fading away into space.

The patient was reluctant to have an operation at this time, and in view of her age she was discharged on a high protein diet of 170 gms. daily. She was seen on several occasions during the succeeding four months. She had no further attacks of hypoglycemia; however, her fasting blood sugars remained abnormally low. During this period she had three episodes suggestive of gallbladder colic. In January, 1951, she was admitted to the hospital for exploration of the pancreas for possible islet cell adenoma and removal of her diseased gallbladder. At exploration a 1 cm. size nodule was removed from the head of the pancreas and the gallbladder was removed. A biopsy of the liver taken at this time showed no significant pathological changes. Post-

operatively she did poorly; the blood pressure was very unstable, and several times she was in mild circulatory shock. Her blood sugars were high and she received small doses of insulin. She expired on the third postoperative day. Postmortem examination revealed evidence of a recent myocardial infarction. Careful study of the pancreas revealed no further tumors.

Case 3 (Mr. A. P.). This 38 year old white farmer was admitted to the University of Virginia Hospital on February 2, 1951, complaining of periodic seizures associated with weakness, fatigue and lack of energy of eighteen months duration. The first of these episodes was characterized by his wandering about, crying and shouting. His family described the attacks as his appearing to be inebriated. He noted an aura of dyspnea and numbness in his hands but there was complete amnesia for the attacks. He had had some seven or eight such episodes, one being associated with a generalized convulsion. On direct questioning it was learned that each of these attacks had occurred prior to breakfast or just before lunch; however, the patient had not recognized that there was any relationship to food. It was subsequently learned from the patient's sister, a nurse, that he was cold and sweaty before these attacks, and that on one occasion the episode was aborted by food.

Eight months prior to his admission here, he was studied in another hospital where he was said to have been found to have low blood sugars. He was put on a high protein diet with amelioration of his symptoms. He had been treated for epilepsy by one physician. During the year and a half of his illness he had lost twelve pounds.

Study of his emotional situation revealed that he was a rather passive sort of individual who was unhappily married.

Physical examination revealed a well developed, small framed male who appeared well. Funduscopy examination was normal. The lung fields were clear and the heart appeared normal. The blood pressure was 160/110. The abdominal examination was negative. The general neurological examination was entirely normal.

Routine examinations of the blood and urine were normal. The five hour glucose tolerance test was of a high plateau type with a normal fasting level. Liver function studies and spinal fluid examination

were normal. After starvation up to twenty-four hours the blood sugar fell to 31 mg. but no symptoms of hypoglycemia appeared.

It was after considerable deliberation and obtaining the additional information that one of these episodes was aborted by the administration of food that surgery was finally advised. At exploration a 1 cm. adenoma was removed from the inferior portion of the head of the pancreas. No other nodules were found. Postoperatively he had temporary hyperglycemia, and glycosuria. At subsequent follow-up examinations in the Medical Out-Patient Department he was found completely free of symptoms of hypoglycemia and fasting blood sugars were normal.

Case 4—(Mrs. M. S. K.). This 27 year old white, divorced, female, textile-worker was referred to the University of Virginia Hospital on June 30, 1950, for study of symptoms of hypoglycemia. She began having lack of energy and inability to arouse herself in the mornings in 1945. She soon learned that by taking sugar she could overcome this difficulty. Frequently she would have periods of amnesia during her working hours and on one occasion she found herself in a cafeteria eating with no idea as to how she got there. She found it necessary to take six to eight feedings during the day to prevent these attacks. These episodes were generally associated with a feeling of hunger, but there was no nervousness, tremor or perspiration observed. During the course of pregnancy in 1948, she was considerably improved. During the five years of her illness she gained considerable weight.

The past history was that of good health. She had had no serious illnesses or operations. Two months after the onset of her illness, she was married and in 1949 she was divorced because her husband was an alcoholic and had become unfaithful to her.

On physical examination she was found to be a well developed, somewhat obese female who reacted slowly and who was emotionally unstable. Funduscopic examination was normal. The blood pressure was 120/70. The abdomen was normal. The liver and spleen were not palpable. Neurological examination was normal.

Routine examinations of the blood and urine were negative. Fasting blood sugars were found as low as 44 mg. per cent with further fasting up to as long as twenty hours, the blood sugars were found

as low as 36 mg. per 100 cc. and were associated with lethargy and sweating of the extremities. The five hour glucose tolerance test showed a fasting level of 63 mg. with a flat curve, the high being 112 at the end of the second hour. Liver function tests were normal. X-ray of the skull was negative. The electroencephalogram was within the limits of normal.

Feeling that this patient fulfilled all the criteria for a diagnosis of islet cell adenoma of the pancreas, on July 12th an exploratory laparotomy was done. A 1 cm. nodular tumor was found in the head of the pancreas, which on microscopic examination showed a gland-like arrangement of pancreatic cells without islands of Langerhans. There was no evidence of malignancy. Postoperatively, the patient did quite satisfactorily with blood sugars up to 200 mg. during the first two postoperative days. After the third postoperative day, the fasting sugars were within normal limits. There were no hypoglycemic episodes following surgery.

Case 5—(Mrs. H. W.). This 44 year old white housewife was admitted to the University of Virginia Hospital on October 2nd, 1950, complaining of weak spells. Her first difficulty occurred fourteen months before admission when she noted the onset of weakness, hunger and sweating while doing her house work. She had noted that after eating the symptoms were relieved and, although they had occurred on several occasions and particularly following exertion, they had not been especially bothersome. In May of 1950, she had a respiratory infection diagnosed as "flu", following which she developed an otitis media with a purulent discharge. She was admitted to another hospital where the ear was drained and she was given penicillin. While in the hospital, blood sugars and a glucose tolerance test were done, and she was first advised that she was diabetic, because her sugars were too high, and glycosuria was present. She was discharged from the hospital on a low caloric diet which apparently did not contain an increased amount of protein.

On the morning following discharge from the hospital, she awoke at six o'clock in the morning, and was weak, hungry and perspiring. These symptoms were relieved by orange juice. On the subsequent morning, she could not be aroused and she was taken back to the hospital, where she was aroused after taking orange juice. She was given some medicine for her

nerves and was advised to take a diet as desired.

Following this, the patient continued to have episodes of weakness, dizziness and extreme nervousness. With some of the attacks, she had numbness about the face and at times had noted ataxia but had never fallen or become unconscious, except for the episode mentioned above. The attacks were often followed by headache. Her appetite had been very much increased, and her hunger was seldom completely satisfied after eating. She had always been somewhat obese but had gained over ten pounds during the preceding four months.

The past history was that of very good health. She had been married for sixteen years and seemed well adjusted to her home environment.

On physical examination we found a moderately obese, plethoric female. Examination of the eyes was normal. The nose and throat were normal. There was compensated adentia. There was a small nodule in the lower pole of the right lobe of the thyroid. The lung fields were clear and the heart appeared normal. The blood pressure was 190/110. No masses or organs were palpable in the abdomen. Neurological examination was negative.

Routine examinations of the urine and blood were negative. Liver function studies were normal. Fasting blood sugars were determined as low as 28 mg. per 100 cc. associated with symptoms of mild to severe shock. These symptoms were always relieved by administration of glucose. The glucose tolerance curve was of a diabetic type, except for the low fasting level of 34 mg. During the test, there was glycosuria from the second through the fourth hours. X-rays of the chest and of the skull were normal.

On October 16th, exploratory laparotomy was performed and a 1½ cm. well encapsulated nodule was removed from the head of the pancreas which revealed islet cell carcinoma of low grade malignancy. Sections of the liver biopsied at the time of operation showed no significant pathological changes.

Postoperatively, the patient did quite satisfactorily. A fasting blood sugar on the first postoperative day was 190 mg. Mild glycosuria continued until discharge on the seventh postoperative day.

The patient was seen again on December 18th, two months following surgery, and she had had no further hypoglycemic episodes. A glucose tolerance test at this time showed a normal fasting level with a rise to 276 mg. at the end of the first hour

and had returned to the fasting level by the end of the second hour.

Signs and Symptoms of Hyperinsulinism—A review of the signs and symptoms caused by insulin producing tumors emphasizes their protean manifestations and the ease with which the diagnosis may be missed unless the diagnosis of hypoglycemia is considered and is searched for carefully by history and laboratory aids. There is no pathognomonic symptom-complex. As shown in Table II taken from

TABLE NO. 2 (CRAIN AND THORN)
SIGNS AND SYMPTOMS EXHIBITED BY 193 PATIENTS WITH
INSULINOMAS

	Per cent
1. Loss of consciousness	58
2. Confusional state	54
3. Weakness and fatigue	41
4. Deep coma	40
5. Sweating	36
6. Drowsiness and stupor	35
7. Light-headedness	30
8. Visual disturbances	30
9. Amnesia	28
10. Clonic convulsions	24
11. Noisy behavior	20
12. Headache	20
13. Tremor	18
14. Hunger	14
15. Positive Babinski	13
16. Paresthesias	13
17. Irritability	11
18. Transient hemiplegia	10
19. Abdominal pain	8
20. Palpitation	3

Crain and Thorn's³ comprehensive analysis of 193 cases reported in the literature, the most frequent symptoms are relative to the central nervous system. Loss of consciousness and confusional states were each present in more than half of the cases reviewed. These symptoms were present in each of our five cases. Weakness and fatigue, and deep coma were common. The common manifestations of hypoglycemia induced in diabetics by the excessive administration of insulin, namely nervousness, sweating and hunger, were less commonly observed in patients with adenomas. Amnesia was present in nearly one-third of the cases of adenomas, and this undoubtedly contributes to the difficulty with which an adequate description of manifestations is obtained in many cases. Amnesia was present in four of our cases. The not uncommon occurrence of such neurological

signs as clonic convulsions, paresthesias, positive Babinski signs, and transient hemiplegias lead to a rather high instance of diagnosis of primary neurological disease. Symptoms of light-headedness and visual disturbances were each observed in 30% of cases.

Diagnosis—The diagnostic awareness that hypoglycemia may account for the symptoms which the patient presents is the important prerequisite to the diagnosis of hyperinsulinism. A careful history in most instances will lead to the presumptive diagnosis of hypoglycemia. Whipple⁵ has set forth the following criteria for the diagnosis of functioning islet cell adenoma: one, the occurrence of symptoms during the fasting state; two, a fasting blood sugar of less than 50 mg.%; and, three, the immediate relief of an attack by the administration of glucose. This triad has become the *sine qua non* for diagnosis of islet cell adenoma.

The five hour glucose tolerance test which is of value in the diagnosis of the functional or stimulative types of hypoglycemia is not important in the diagnosis of hyperinsulinism due to islet cell tumors. Graph No. I showed the variety of glucose tolerance

level and a high plateau, diabetic type of curve which has been described by Conn as characteristic of hypoglycemia associated with hepatic disease. These cases were all studied and found to have no significant liver dysfunction. Only one of our cases (Mrs. M. S. K.) showed a tolerance curve similar to that which Conn¹ has described as characteristic for islet cell adenoma, namely, a very low flat curve. In our experience, as has been noted by others,^{2,3} the glucose tolerance test is not a diagnostic aid and, in fact, may give misleading information. One of our patients (Mrs. H. W.) had been diagnosed diabetic elsewhere because of a high plateau curve associated with glycosuria.

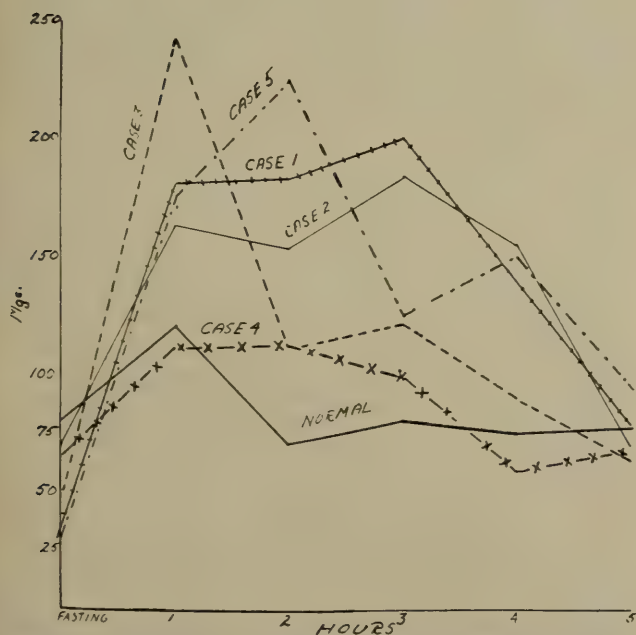
More important in establishing the diagnosis of hypoglycemia due to islet cell adenoma is the determination of blood sugars after periods of prolonged fasting. Commonly this maneuver will bring out the symptoms of hypoglycemia which, if then relieved by the administration of carbohydrate, fulfills two of the criteria for diagnosis.

Levels of blood sugars, *per se*, do not differentiate hypoglycemia due to adenomas from the non-surgical types of hypoglycemia. Marked hypoglycemia is occasionally found in functional cases two or three hours following a high carbohydrate meal, as during the glucose tolerance test.

Management of Patients with Islet Cell Adenoma of the Pancreas—Once the criteria for diagnosing an insulin producing tumor has been fulfilled, the treatment is surgical. Attempts to treat these patients by non-surgical methods have been unsuccessful. It was possible in one of our cases (Mrs. D. M.) to produce a remission of hypoglycemic symptoms by a high protein, low carbohydrate diet; however, when blood sugars did not return to normal levels it was decided to explore her and an adenoma was found.

These adenomas may be very small and at times extremely difficult to locate at operation. Careful and complete exploration will lead to the discovery of the tumor in most instances. If one adenoma is found, the same careful search must be made because more than one tumor is present in from 12 to 14% of cases.^{3,4,5} Several instances of adenomas appearing in aberrant pancreatic tissue have been reported.^{6,7} The question of whether or not partial resection of the pancreas should be done in those cases when no tumor has been found poses an important problem. Partial pancreatectomy is unsatisfactory in most in-

PREOP. 5 HR GLUCOSE TOLERANCE
CURVES IN ISLET CELL ADENOMAS



Graph I.—Recognition and management of hypoglycemic states with particular reference to islet cell tumors of the pancreas.

curves obtained in our five cases during the pre-operative period. There tends to be a low fasting

stances unless an adenoma is found in the resected portion of the gland. One of our cases (Mrs. R. W.), being explored for the second time for an insulin producing tumor, had a subtotal pancreatectomy without even temporary remission in hypoglycemia. At third exploration, an adenoma was found in the head of the pancreas.

The results of surgery in those cases in which the triad for diagnosis is fulfilled are very good. In Whipple's series⁵ a tumor was found in twenty-seven of twenty-eight patients in whom the typical triad was present. In those cases in which benign adenomas are found and in those cases in which the malignancy has not extended beyond the capsule, as was found in one of our cases (Mrs. H. W.), lasting cures are almost invariably obtained. Persistence of hypoglycemic symptoms after the removal of an adenoma indicates that additional insulin producing tumors are present and further exploration is indicated.

DISCUSSION

Several points of particular interest are illustrated in our cases which deserve further comment.

I. *Unusual Course: Hypoglycemia Apparently Relieved by Futile Operation; Subsequent Return of Symptoms, Adenoma Found:*—The natural course of hypoglycemia due to islet cell adenoma is generally that of progressive increase in frequency and severity of symptoms. Two of our patients have demonstrated that such a course is not always the case. One of these patients (Mrs. D. M.) fulfilled the criteria for diagnosis of functioning adenoma and at time of exploration was having almost persistent hypoglycemic shock. At operation an adenoma was not found and, although subtotal resection of the pancreas was considered, the gland was not disturbed except as was necessary for adequate palpation. Following operation, she was completely relieved of her symptoms for a period of four years. She was seen on several occasions subsequent to this and was completely free of hypoglycemic symptoms. Five hour glucose tolerance curves and blood sugars after prolonged fasting were entirely normal. Four years later she was seen following an attack of coma of two hours duration. A fasting blood sugar at this time was abnormally low but immediately subsequent to this, prolonged fasting did not produce abnormally lowered blood sugars or symptoms of hypoglycemia.

It was six years after the original operation that symptoms of shock became persistent and subtotal pancreatectomy was performed, although again no tumor could be found. This procedure did not bring about even temporary remission in symptoms and a third exploration was done with removal of an adenoma from the head of the pancreas with relief of her hypoglycemia.

The second patient (Mr. A. P.), whose original symptoms had been those of confusion and on one occasion he had a generalized convulsion, had been free of these symptoms for eight months prior to his study at our hospital. After periods of prolonged fasting, severe hypoglycemia was produced (blood sugar 31 mg. %), but symptoms were never present.

These patients illustrate that not only do prolonged remissions in symptoms occur in cases of proven islet cell adenoma, but actual return to normal of blood sugar levels and glucose tolerance test take place, probably indicating that these tumors have quiescent periods during which abnormal amounts of insulin are not produced. Such changes may account for the difficulty in diagnosis in those patients who are not having symptoms at the time of study. Holman⁶ has reported one case who was having severe hypoglycemia and at exploration no tumor could be found. At the time of the report, five years later, the patient had remained asymptomatic although no portion of the pancreas or its blood supply was removed. This case differs from ours in that an adenoma was never proven, nor were metabolism studies reported.

II. *Relief of Symptoms Coincident with Pregnancy:*—It is of interest that one of our patients (Mrs. M. S. K.), subsequently proven to have an islet cell adenoma, went through a successful pregnancy following the onset of her symptoms of hypoglycemia. She reported considerable improvement during her pregnancy. Just why this was true or whether there was any relationship to the pregnancy we can not say.

III. *Absence of Symptoms Before Breakfast, Seizures Later in Day:*—It is common knowledge that the symptoms of hypoglycemia due to adenomas are more likely to occur after prolonged fasting. Hence, symptoms are common in the mornings before breakfast. However, in one of our cases (Mrs. D. M.), the symptoms never appeared before breakfast, though later in the day hypoglycemia was suf-

ficiently severe to produce psychomotor seizures.

IV. *Patients Unaware of Food Relationship*:—History of symptoms occurring during the fasting state and relief of these symptoms by the ingestion of food are so important in the diagnosis of functioning islet cell adenoma that they have become two of the criteria necessary for diagnosis. However, two of our patients were not aware at the original interview of a definite relationship of symptoms to the fasting state; three had not appreciated the relief of symptoms by the ingestion of food. It was necessary to bring out these points by direct questioning.

V. *Weight Loss During Course of Benign Adenoma*:—Weight gain resulting from the excessive calories necessary to prevent symptoms of hypoglycemia is so common that it is anticipated in all cases of adenoma. Even in the cases of hypoglycemia associated with malignancy of the islet cell tissue weight gain is common. One of our cases in whom a benign adenoma was found at operation showed moderate and progressive weight loss during the eighteen months his symptoms had existed.

SUMMARY

1. Hypoglycemia due to islet cell adenoma is discussed. Five cases which illustrate several unusual features of the disorder are presented.

2. Symptoms of hypoglycemia due to islet cell adenoma are not always progressive. A case is reported in which a remission of four years duration followed exploration of the pancreas but in which no

portion of the gland was removed. Subsequently, symptoms returned and an adenoma was found in the pancreas. Improvement in symptoms in another case was seen during the course of pregnancy.

3. History of symptoms occurring during the fasting state and the relief of these symptoms by food may be unobtainable from the patient. This is probably related to the high incidence of amnesia for the attacks.

5. Weight loss rather than weight gain is sometimes seen in islet cell adenomas.

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Atabrine Used to Treat Tapeworm.

Quinacrine hydrochloride (Atabrine, trademark)—used during World War II as an antimalarial agent—has proved of value in the treatment of tapeworm, according to an article in the Jan. 26, Journal of the American Medical Association.

Eleven persons suffering from tapeworm were given the drug, reported Drs. William A. Sodeman and Rodney C. Jung, of the School of Medicine, Tulane University of Louisiana, New Orleans. It was effective in 10 of the cases on the initial trial, and in

the 11th when treatment was repeated, they stated.

The patients were given doses ranging from 0.6 to 1.2 grams at the rate of two 0.1 gram tablets every five minutes with a little water until the entire amount was taken. If the patient reacted to the drug by vomiting and nausea, sodium bicarbonate was added to the water when the medication was repeated.

In the treatment of tapeworm, the doctors said, the prompt action of quinacrine and the benign character of the toxic reaction have established it in their opinion as the drug of choice.

THE EXPANDING FIELD OF SPLENECTOMY FOR HYPERSPLENISM*

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The modern concept of hypersplenism has enlarged the splenectomy agenda in a number of useful ways. Hematological hypersplenism may be defined as an exaggeration, and perhaps perversion, of splenic function resulting in reduction of one or more of the formed elements of the blood. The mechanism of hypersplenism remains controversial. The mechanical hypothesis of cellular sequestration, phagocytosis and lysis by the spleen (Protagonist: Doan) is opposed by the hormonal hypothesis of excessive marrow inhibition by the spleen (Protagonist: Dameshek). While we adhere chiefly to the mechanical hypothesis, including sensitizing and opsonic-like activities of the diseased spleen, acting on the red cells, leukocytes and platelets, it must be admitted that there are some intimations of a possible splenic hormonal action on the bone marrow as well. A few years ago Dameshek¹ held that the diagnosis of hypersplenism is a problem of "correct addition." His equation is stated as follows: An adequate history, plus splenomegaly, plus anemia, neutropenia, thrombocytopenia, or pancytopenia, plus a normal or hyperplastic bone marrow "equals" hypersplenism. Doan has added to this a positive response of the cells to adrenalin. Personal experience is much less simple than this equation would indicate. We find the diagnosis of hypersplenism is often a meticulous affair with conflicting data to be weighed and with the final proof of the diagnosis sometimes a matter of prayerful waiting for the desired post-splenectomy response. As we have pointed out before,² neither splenomegaly nor hyperplastic bone marrow are universal components of hypersplenism. For example, a few otherwise classic cases of hemolytic icterus

of familial type, together with a majority of cases of idiopathic thrombocytopenia, are without splenomegaly. Yet these respond to splenectomy just as brilliantly as those with splenomegaly. Furthermore, an aplastic phase of hemolytic icterus, originally recorded by Owren, has been well substantiated by us and others. In this phase the usual evidences of hemolysis (bilirubinemia, urobilinuria and reticulocytosis) diminish or disappear; and sample of the bone marrow shows a hypocellular arrest-pattern. Here again splenectomy is perfectly successful. A few cases of Felty's syndrome with hypocellular bone marrow have been markedly benefited by splenectomy, which once more emphasizes the fact that hypercellular bone marrow is, like splenomegaly, not a necessary component of the hypersplenism syndrome.

We have found it convenient, on purely empirical grounds, to divide hypersplenism into two groups (Table I): *primary hypersplenism* in which a "clinical" cure† of the entire disease-pattern is obtainable by splenectomy, and *secondary hypersplenism*, in which known systemic disease is associated with hemocytopenia and splenomegaly, and in which the hemocytopenia is remediable by splenectomy even

TABLE 1
CLASSIFICATION OF HYPERSPLENISM

I. PRIMARY

- (1) Hemolytic ictero-anemia (familial type, Chauffard, Minkowski).
- (2) Idiopathic thrombocytopenic purpura (Werlhoff).
- (3) Splenic neutropenia (Wiseman and Doan).
- (4) Splenic panhematopenia (Doan and Wright).
- (5) Hemolytic anemia — Acquired (Hayem — Widal)*

*From the Hematology Section of the Medical Clinic, Hospital of the University of Pennsylvania. An abstract of this report was presented by the senior author on 10 May '51 at the 200th Anniversary Exercises of the Pennsylvania Hospital, Philadelphia, under auspices of the American College of Physicians.

†This is true despite persisting unimportant evidences of hemopoietic abnormality such as spherocytosis, post splenectomy, in congenital hemolytic icterus.

*Perhaps this group should be placed in the "secondary hypersplenism" category.

II. SECONDARY—In Some Cases of:

- (1) Lipoid dystrophies and amyloid disease of the spleen.
- (2) Chronic infections (syphilis, malaria, tuberculosis, kala-azar, brucellosis, Felty's syndrome, sarcoidosis) with splenomegaly.
- (3) Disseminated lupus, periarteritis nodosa with splenomegaly.
- (4) Congestive splenomegalies (Banti's syndrome, portal cirrhosis, portal thrombosis).
- (5) Malignant splenomegalies (Hodgkin's, leukemia, lymphosarcoma, myeloma).
- (6) Cooley's anemia and sickle cell-anemia.†

though the underlying disease-process is not "cured" thereby.

A few years ago we surveyed² the last 100 splenectomies in the Hospital of the University of Pennsylvania. The following table presents the data of this survey. (Table II)

operation would have been considered in our clinic.*

Case 1: A 65 year old widow had suffered for 10 years from recurring attacks of agranulocytosis associated with fever, angina, and often cystitis requiring frequent hospital admissions and active antibiotic therapy. For a while we held to the belief that this patient's episodes of agranulocytosis must be drug-induced, even though the only agent admitted by the patient was ergotamine tartrate, which she took frequently for relief of migraine headache. Attempts to wean her from this drug were not entirely successful but on two occasions she developed agranulocytic angina at a time when she had taken no ergotamine and no other culpable drug. Splenectomy was advised and eventually was performed in another hospital 2 years ago. Following splenectomy she made an excellent recovery and has maintained a perfectly normal blood pic-

TABLE 2

RESULTS OF 100 SPLENECTOMIES	DEATHS SURVIVING				FINAL SCORE	
	No. Cases	Postop. and from Disease	Good to Fair	Poor	Worth-while %	Overall mortality %
I. PRIMARY HYPERSPLENISM -----	54	4	49	1	90	7
Idiop. thrombop. purp. -----	20	3	17	0	85	15
Hemolyt. anemia (familial) -----	17	0	17	0	100	0
Splen. neutro. & panhematopen -----	10	0	9	1	90	0
Hemolyt. anemia (acquired) -----	7	1	6	0	85	14
II. SECONDARY HYPERSPLENISM -----	20	3	14	3	70	15
"Banti's syndrome" -----	10	1	7	2	70	10
Gaucher's -----	1	0	1	0		
Lipoid dyst. -----	1	0	1	0		
Sarcoid -----	1	0	1	0		
Lipoid dystrophy -----	1	1	0	0		
Thalassemia minor -----	1	0	1	0		
Tbc. of spleen -----	1	0	1	0		
Undiag. splenomeg. cytopenia -----	4	1	2	1	50	25
Totals for hypersplenism -----	74	7	63	4	85	9
III. NON-HYPERSPLENISM -----	26	6	20	0	77	23
Grand Total -----	100	13	83	4	83	13

Results in the primary group of hypersplenism are, for the most part, excellent and little need be said about them. We are interested at this time particularly in emphasizing the usefulness of splenectomy in some of the less clearly defined "secondary" forms of hypersplenism. In the last few years, since the above mentioned survey was made, we have had occasion to recommend a number of splenectomies for diseases in which, in former years, no such

ture and clinical status to date. This represents the type of primary splenic neutropenia described by Doan and his colleagues, which, under older classification, would have been called "cyclical agranulocytosis" and would probably not have had the curative benefit of splenectomy.

†Included on the basis of recent reports³ rather than on basis of personal experience.⁴

*Although our clinic has held to the old view that Cooley's anemia is not helped by splenectomy we have recently received data from a colleague working in Cyprus which proves the contrary in early well selected cases.⁴ The same remarks apply to newer data in sickle-cell anemia.³ We have therefore added these to the secondary hypersplenism group of Table 1.

Case 2. A 40 year old steel worker was stricken with "viral" pneumonia and hepatitis. He was given sulfonamide therapy in his home town and became desperately ill with jaundice, anemia, mounting pyrexia and profound hemolytic anemia. On admission to the University Hospital a month after onset he was semicomatose, jaundiced, severely anemic and had a blood urea nitrogen of 60 mgs.%, with oliguria, hematuria, and retinal hemorrhages. Additional findings included enlargement of the liver and spleen. After several weeks of treatment, including blood transfusions and aureomycin, his urinary output improved, and evidences of infection subsided, but anemia, jaundice and azotemia remained and donor blood was destroyed almost as fast as administered. Bone marrow study showed normal cellularity. The Coomb's test was strongly positive and a weak cold agglutinin was demonstrated. Diagnosis of acquired hemolytic anemia was made and splenectomy was performed with dramatic cure of the anemia and azotemia and return to normal health. This patient has been well for more than a year since splenectomy.

Case 3. A 66 year old man had suffered for more than 3 years with chronic lymphatic leukemia. This was satisfactorily controlled by periodic courses of x-ray therapy until 10 months ago when very profound hemolytic anemia developed requiring a liter of blood by transfusion weekly, to maintain his red cell count at one and one-half million. After 2 months of this treatment the patient had nearly exhausted the blood bank, and the resources of himself, family and friends. During this period his spleen enlarged progressively and failed to respond to x-ray therapy. In addition to profound anemia our clinic* discovered a 30% to 40% reticulocyte level and marked hyperexcretion of urobilinogen and increased bilirubinemia. A diagnosis of secondary hypersplenism was made despite a negative Coomb's test, and a huge spleen was successfully removed by Dr. I. S. Ravdin. Following this the patient made an uneventful recovery and regenerated his red cells without a single additional blood transfusion. He has remained in relatively good condition ever since (12 months). In addition to improvement in anemia a most interesting increase of blood platelets occurred. These were constantly in the neighborhood

of 40 to 50,000 before operation. Following operation the platelet count rose to nearly a million and has since stabilized itself at 300,000. This case illustrates the development of secondary hypersplenism in chronic lymphatic leukemia and the beneficial result which may be obtained by splenectomy in such cases. This further illustrates the possible role of hypersplenism in the thrombocytopenia of leukemia. Heretofore we had believed and taught that thrombocytopenia in leukemia is due to a myelophthisic mechanism of displacement of megakaryocytes by malignant leukemic bone marrow infiltration. This result of splenectomy indicates, however, that hypersplenism may be an important factor in leukemic thrombocytopenia. The patient's lymphatic blood picture remains, of course, unchanged; and his outlook for many more years of survival is poor. Despite this, the operation seems thoroughly justified and well worthwhile.

Case 4. A 34 year old bachelor school-teacher was stricken in March, of 1949, with acute hepatitis which became progressively worse and was complicated by rapidly developing anemia of undetermined nature. He was admitted to his home town hospital after one month of illness. Here enlargement of the liver and spleen, jaundice and profound anemia were found. He was given a series of blood transfusions and improved sufficiently to go to Cleveland for further evaluation. The Cleveland group confirmed the diagnosis of severe hepatitis, presumably of viral origin, severe anemia of unexplained etiology, and discovered moderate diabetes mellitus. He returned home improved but anemia became worse, requiring a blood transfusion every few days. His diabetes likewise became worse, requiring 35 units insulin daily for control. In May, of 1950, approximately a year after onset of trouble, he was referred to us in the Hospital of the University of Pennsylvania. By this time he had received 60 blood transfusions, totalling 30,000 c.c. of blood, despite which, admission blood count showed approximately 3,000,000 red cells and 60% hemoglobin. His liver was very large and hard and his spleen considerably enlarged. His skin appeared slightly "bronzed" and a punch biopsy of the liver showed "typical hemochromatosis." In addition, gall stones were found by cholecystography. Bone marrow aspiration showed slight hypocellularity. Platelet count was moderately low (100,000), Coomb's test posi-

*Dr. A. J. Creskoff is chiefly responsible for the study and management of this patient's problem.

tive, reticulocytes were recorded at five to ten per cent. Adrenalin response was "satisfactory" and "compatible with hypersplenism." The diagnosis of hemochromatosis, probably of exogenous (transfusion) type,* was made with secondary hypersplenism and anemia of acquired hemolytic type. Splenectomy was performed by Dr. I. S. Ravdin in May, of 1950, following which the patient recovered without incident. His blood count, including platelet count, returned to normal and has remained normal ever since. He has performed a full day's work without disability and with no more transfusions. His diabetes is apparently permanent, as is the hemochromatosis of his liver. This organ remains considerably enlarged. Splenectomy has saved this man from the added insult of continued excess of transfusional overload of iron on an already damaged liver, and has successfully solved the problem of his chronic refractory anemia.

Before closing, we wish to make a brief digression into arm-chair speculation. The question herein raised is as follows: if hypersplenism exists, what about hyposplenism? We find ourselves uncertain about the answer. We do not actually know what hypersplenism is, except as a "pathological something" which is remediable, to some extent, by splenectomy. Hyposplenism and normosplenism are, therefore, to be defined as conditions which are not helped by splenectomy! Going a step further, the post-splenectomy state *should* represent the *acme* of hyposplenism. In human beings this state is characterized by "normal" life expectancy and by nothing more than the persistence, for years afterward, of Howell-Jolly bodies and periodic or sustained leukocytosis and thrombocytosis of moderate degree. In the rat, this state is further characterized by invasion of the blood by Bartonella muris, suggesting that asplenism may result in "lack of immunity". There is no evidence, however, of this in the human. We have treated patients (including soldiers in the

jungle of Assam) whose spleens had previously been removed. They withstood the insults of wounds, malaria, hepatitis, dysentery and other infections just as well as their nonsplenectomized brothers. According to pioneer researches splenectomized animals may, in a dire emergency of hemorrhage or anoxemia, be more liable to succumb than equally traumatized, nonsplenectomized individuals. In addition, it appears that animals exposed to near-lethal irradiation, have a better chance of survival if their extraperitonealized spleens are "shielded" or if normal hemologous splenic tissue is placed in the peritoneum soon after exposure⁵. We are not sure of the corollary of this, but suspect that an emergency atomic stress of near-lethal magnitude may be better met by the non-splenectomized individual, *especially if he or she wears a lead corset!* In brief, therefore, we believe that hypersplenism is an important *abnormal* state with little "clinical" counterpart in the opposite state of asplenism or of hyposplenism (in post fetal life).

In conclusion, despite practical diagnostic difficulties and theoretical deficiencies in current hypersplenism concepts, the generally good result of splenectomy in properly selected cases lends support to the hypothesis, and warrants careful extension of the splenectomy agenda to include patients suffering from forms of hypersplenism hitherto rarely if ever considered candidates for splenectomy.

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*A complete report of this case with review of the literature of hemochromatosis will be reported elsewhere. This report will emphasize the possible role of hemolysis in the development of hemochromatosis.

COLITIS FOLLOWING THE ORAL ADMINISTRATION OF AUREOMYCIN AND TERRAMYCIN*

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The ever increasing use of aureomycin and terramycin is bringing to our attention an increasing number of toxic reactions.¹ Angioneurotic edema², allergic skin eruptions³, pruritis vulvae¹, and generalized vesicular skin eruptions⁴ are some of the unpleasant reactions observed in patients who had received aureomycin by mouth. Gastro-intestinal disturbances including nausea, diarrhea, and burning of the ano-rectum are frequently noted^{5,6,7}. Seifert, Chandler and Van Winkle⁶ observed disagreeable side effects in 27 of 39 patients (69%) while taking aureomycin *per os*. The toxic symptoms consisted of nausea in fourteen cases, vomiting in eight, diarrhea in eleven, and a burning sensation in the ano-rectal region in nine. Attention was called to the fact that in a number of cases, diarrhea did not develop until several days after cessation of aureomycin therapy. Harris⁷ noted unpleasant gastro-intestinal symptoms in 60.9% of females and 19.3% of males out of a total of 110 patients treated for brucellosis by aureomycin.

Since the advent of aureomycin therapy over two years ago we have frequently observed ano-rectal irritation, itching and burning associated with varying degrees of excoriation, redness, and edema of the anal and peri-anal skin during and following aureomycin administration. Probably these reactions are partially allergic in nature, as most of them are relieved by giving antihistaminics *per os* and the local application of a bland ointment.

Within the past few months we have observed several cases of colitis which developed in from 3-14 days after oral administration of aureomycin was discontinued. Others^{8,9} have reported similar reactions following the oral use of terramycin. While some of the cases were relatively mild, others were quite severe and required hospitalization of 3-4 weeks duration. We think there have been too many cases to attribute this to mere coincidence and some of our Richmond colleagues^{8,9,10,11,12}, who share a similar opinion consider this a problem worthy of investiga-

tion. In presenting this paper we regret being unable to advance a means of prevention or cure, but we hope that our observation may serve as a stimulus for research and investigation that may lead to its early solution.

An analysis of the proctoscopic findings, laboratory examinations, course and treatment of these cases of colitis due to aureomycin and terramycin effect follows.

Proctoscopic Findings.—The rectal and sigmoidal mucosa was erythematous and edematous in the milder cases. The moderately severe cases exhibited a mucosa which was mottled, edematous and very friable, bleeding on very slight trauma. The most severe cases showed marked multiple ulcerations, the lumen of the bowel containing pus, mucus and blood.

Laboratory Examinations.—Complete laboratory studies were done only in those patients who were hospitalized. The routine examinations of the urine and blood revealed no significant findings. The feces were negative for parasites and ova but in the severer cases contained many pus and blood cells. Stool cultures showed the presence of B-proteus, B-coli, and a short-chained streptococcus. In two cases cultures were made on Sabourands' media but there was no growth of *Monilia* (*Candida*) *Albicans*.

Treatment.—In the mild ambulatory cases, Kao-magna and/or paregoric were given every four hours. The diet recommended was fat-free, bland, and restricted somewhat as to quantity. The hospital cases were markedly restricted in their diets and for 2-3 days received little or no nourishment *per os*. Intravenous feedings were used as necessary. Paregoric or other opiates were used rather freely. One case received an antihistaminic drug (Chlor-trimeton) for four days. Sulfathaladine was given to one patient for two days and in another case sulfa-suxadine was administered.

Course.—The duration of diarrhea and abdominal discomfort varied from several days to four weeks in the milder cases. During the period of convalescence slight exacerbations were common. The severer cases persisted with symptoms from 2-4 weeks.

*Read before the Piedmont Proctologic Society at Knoxville, Tenn., March 31, 1951.

All patients made complete recoveries, although a 67 year old male developed bilateral peri-anal abscesses during his hospital stay. Since then the resulting fistulae have been excised and the patient is making an uneventful recovery.

Comment.—Several theories have been advanced in an attempt to explain the pathogenesis of the colitis secondary to the oral administration of aureomycin and terramycin. One explanation is that after the antibiotics have altered the flora of the large bowel, there is a resulting overgrowth of *Monilia Albicans* which is not destroyed by aureomycin or terramycin. No growth of *Monilia Albicans* was obtained in the two cases in which special cultural studies were made. An allergic sensitivity might be a possible explanation, but in one case an anti-histaminic drug was used systemically with no relief of symptoms.

Thought has been given to possible ways of preventing these unpleasant complications. Intravenous aureomycin causes rather marked destruction of the veins. Moreover, this antibiotic is known to be excreted into the bowel after intravenous medication⁷. The use of vitamin B complex⁷ or particularly vitamin B₁₂⁸ during the use of aureomycin and terramycin are thought to be helpful in preventing complications.

No particular treatment appeared to shorten the period of morbidity. Good nursing care, marked restriction of the oral intake of fluid and food, plus adequate supportive intravenous feedings are of importance. Paregoric and other opiates were particularly helpful, but sulfathaladine, sulfasuxadine and chlor-trimeton were of no apparent benefit. Because the complications are frequent and occasionally severe, it might be prudent to reserve the use of aureomycin and terramycin for those patients whose illness clearly indicates their use. To quote from a consultant of the *Journal of the American Medical Association*, "Because of the frequency of these complications (to aureomycin) an increasing number of clinicians are limiting the use of their drug to its absolute indications"¹³.

SUMMARY AND CONCLUSIONS

1. Toxic reactions of various types due to the

oral administration of aureomycin are recognized.

2. Ano-rectal irritation and diarrhea are frequently noted during and after aureomycin medication.
3. Colitis, occasionally severe, has recently been observed following the oral administration of aureomycin or terramycin.
4. An analysis of these cases of colitis has been made.
5. Explanations of the pathogenesis so far advanced appear unsatisfactory.
6. Means of prevention and treatment are only partially effectual.
7. Because of the frequency of complications following aureomycin and terramycin medication it may be well to limit the use of these drugs to their absolute indications.

Dr. Charles M. Caravati has very kindly allowed the author to use several of his cases in this analysis. In addition, his pertinent observations and valued opinions have been most helpful in the preparation of this paper on Colitis.

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PREVALENCE OF MICROSPORON AUDOUINI INFECTIONS OF THE SCALP IN CHARLOTTESVILLE, VIRGINIA

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Introduction.—Although tinea capitis from *Microsporon audouini* is pandemic, the greater part of the United States remained free from this infection prior to 1940. In 1945 Lewis and his co-workers¹ called attention to an epidemic in New York City. At the same time, Benedek² was studying an epidemic in Chicago, and Reif³ was observing its occurrence in Buffalo. In 1944 and 1945 Swartz and his co-workers⁴ diagnosed 565 cases in Hagerstown, Maryland. According to Steves and Lynch,⁵ 834 cases were observed in Minneapolis and St. Paul during 1945 and 1946. Carrick⁶ estimated in 1946 that 6000 cases existed in the Detroit elementary schools. Ray⁷ found *M. audouini* in Portland, Oregon, in 1946, and in 1947 Wilson and Plunkett⁸ detected its presence in the Los Angeles area.

The first cases in the South were reported during 1947 by Callaway and Conant⁹ in North Carolina, and by Dobes¹⁰ in Georgia. Lehmann¹¹ found only 11 per cent of *Microsporon* infections, seen in San Antonio from 1946 to 1948, were of the *audouini* species. Lamb¹² states that infections from this fungus are rarely seen in Oklahoma City. *M. audouini* is the most common cause of tinea capitis in Richmond, Virginia.¹³

This survey was conducted to determine whether or not an unsuspected epidemic of *M. audouini* infections existed in Charlottesville, Virginia.

Procedure.—All children in the public grade schools, from the first through the seventh grades, were examined during both the 1948-1949 and 1949-1950 school years. This evaluation was made in a darkened room under a Wood's light. The scalp, neck, face, eyelashes and eyebrows were examined on all individuals. If fluorescent hairs were observed, specimens were taken for mycological study.

*Dr. Smith, loved by all who knew him, died unexpectedly on August 31, 1950.

Every infected person was questioned to ascertain whether or not the infection was possibly acquired outside the community. To prevent dissemination of any infection, the examiner wore rubber gloves which were changed after every positive case. The same physician performed all examinations.

Each diagnosis was confirmed by microscopic demonstration of the spores, characteristic cultures on Sabouraud's dextrose medium, and typical culture mounts stained with lactophenol cotton blue.

Result of Survey.—Two surveys, totaling 4518 examinations, were made. There were 3420 examinations in the white schools and 1098 in the Negro schools (Table 1). On the second survey only the

	1948-49		1949-50	
	White	Colored	White	Colored
Male -----	811	222	889	313
Female ---	859	251	861	312
Total ----	1,670	473	1,750 (301)*	625 (98)*
Total Examinations -----	4,518			

Table I. Race and Sex Distribution of Entire Group Examined for *M. audouini*.

*Number of total entering school.

399 first grade pupils had not been checked previously.

Thirty-three patients were found to have tinea capitis (Table 2). The causative fungus in every

	1948-49		1949-50	
	White	Colored	White	Colored
Male -----	4	20	1	4
Female ---	1	1	1	1
Total ----	5	21	2	5
Incidence per 100 children	0.3	4.4	0.1	2.2*

Table II. Distribution of *M. audouini* scalp infections by Race and Sex. The Racial Incidence is per 100 Children Examined.

*This includes nine cases originally diagnosed in 1948-1949 but not cured at time of examination.

instance was *M. audouini*. The ratio of white to colored patients was 7:26 and the ratio of girls to boys was 4:29. The yearly incidence during 1948-1949 and 1949-1950 was 0.3 and 0.1 per one hundred white children and 4.4 and 2.2 per one hundred colored children.

It was found that 12 (36 per cent) of the infections occurred in children in the first grade, while 28 (85 per cent) were seen in the fourth grade or below. Only 7 new cases were detected during 1949-1950 and 5 of these occurred in previously unexamined first graders.

Epidemiological study revealed only 2 patients who had lived or visited in an epidemic area. One white child did live in a tourist court and played with transient children. The remaining infections apparently were contracted locally. Three Negro boys were brothers.

Comments.—We feel that our findings are of particular significance, since Charlottesville, like many smaller Southern cities, has a relatively fixed population without migratory workers or nearby service camps. Our results, conservatively speaking, could be applicable to similar communities in the South where *M. audouini* is found.

This survey does not indicate an epidemic of tinea capitis due to *M. audouini* is present in Charlottesville, Virginia. The present infections, under favorable circumstances could easily serve as a reservoir for dissemination of the disease. The occurrence of 12 cases (36 per cent) in the entering grade indicates the incidence of infection could be appreciably reduced by adequate diagnosis and treatment in children starting to school.

Hazen¹⁴ has reported the increased prevalence of tinea capitis in the Negro. This was observed in our study and, in our opinion, may be attributed more to over-crowded living conditions than to a particular racial susceptibility.

SUMMARY AND CONCLUSIONS

From 1948 to 1950 all grade school children of Charlottesville, Virginia, were examined annually for tinea capitis. A total of 4518 examinations was made

and 33 cases were detected. *M. audouini* was the causative fungus in every instance. Eighty-five per cent of infections occurred in the lower four grades.

The yearly average incidence was 0.2 per one hundred white children and 3.3 per one hundred colored children. Since this community is away from large population centers and has a relatively fixed population we believe this incidence, conservatively speaking, would be applicable for other small Southern cities in which *M. audouini* is found.

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THE ELECTROCARDIOGRAM IN CHILDHOOD

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Twenty-five years ago only a few individuals were considered authorities in the field of electrocardiography but now even the most mediocre among us

These consist of the original three limb leads, the six precordial leads and the three unipolar extremity leads. Some investigators even want more.

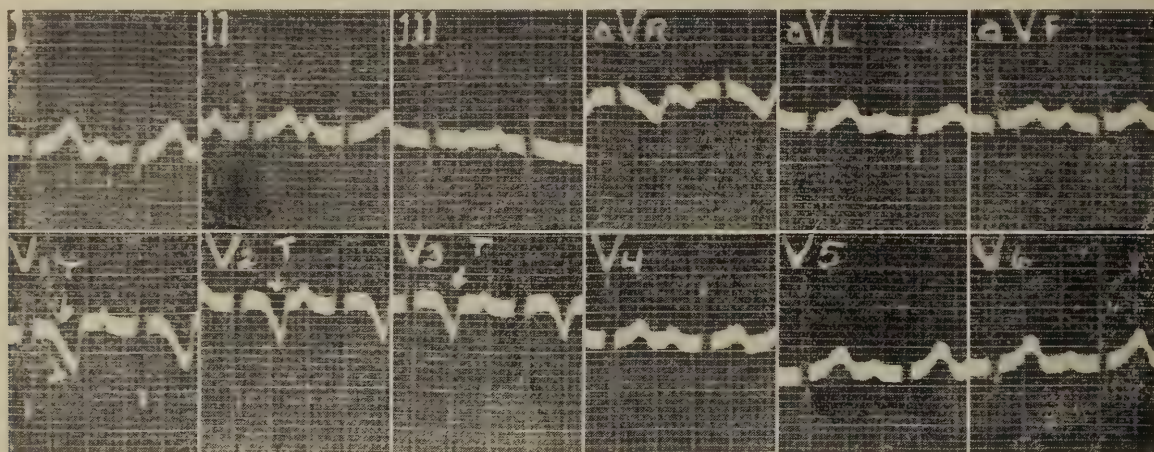


Fig. 1.—This is a normal tracing on a 2½ year old child. The heart's position is semi-vertical and the P-R interval is slightly prolonged. The deep negative T waves seen over the right side of the precordium are not uncommon.

have more than a passing knowledge of not only the electrocardiogram but the electrophysical relations causing its transcription.

Probably some of us did not appreciate the good old days when the three lead electrocardiogram was

This means that most of the statistical studies on the normal electrocardiogram require revision, especially as regards the precordial leads. During and since the war the adult electrocardiogram with reference to the six positions across the chest has been

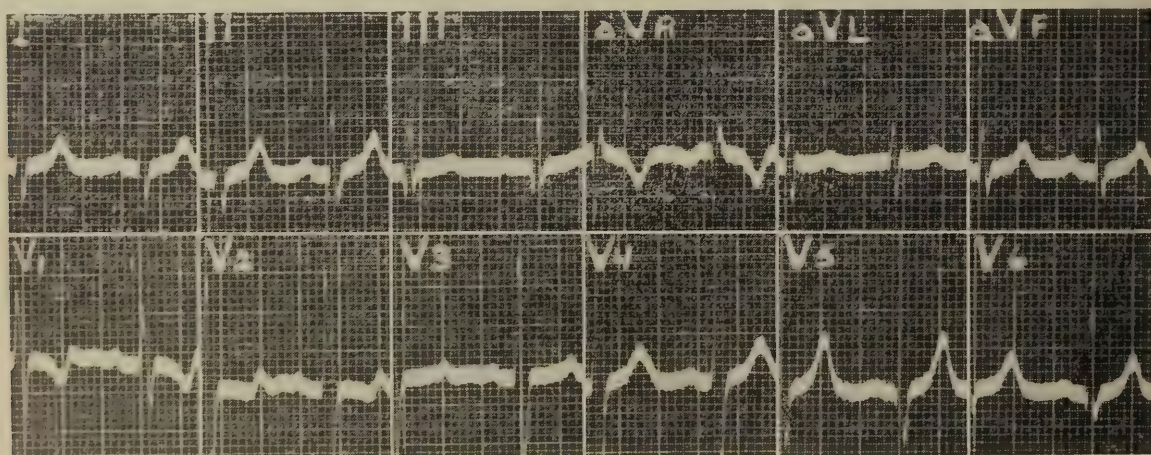


Fig. 2.—This is a normal tracing on a 5 year old child. The heart is in a vertical position. The T waves are diphasic in V₂ and low in V₃. These are considered within a normal range.

thought sufficient enough to give us the necessary knowledge needed in a specific cardiac problem. It is not unusual today to take twelve leads routinely.

Presented at the Medical College of Virginia Symposium on Congenital Heart Disease, February 17, 1950.

fairly well evaluated. Although we frequently take the unipolar extremity leads they have not proven of any great value except occasionally in the interpretation of an unusual Q wave in lead III. Most of the published reports dealing with the normal

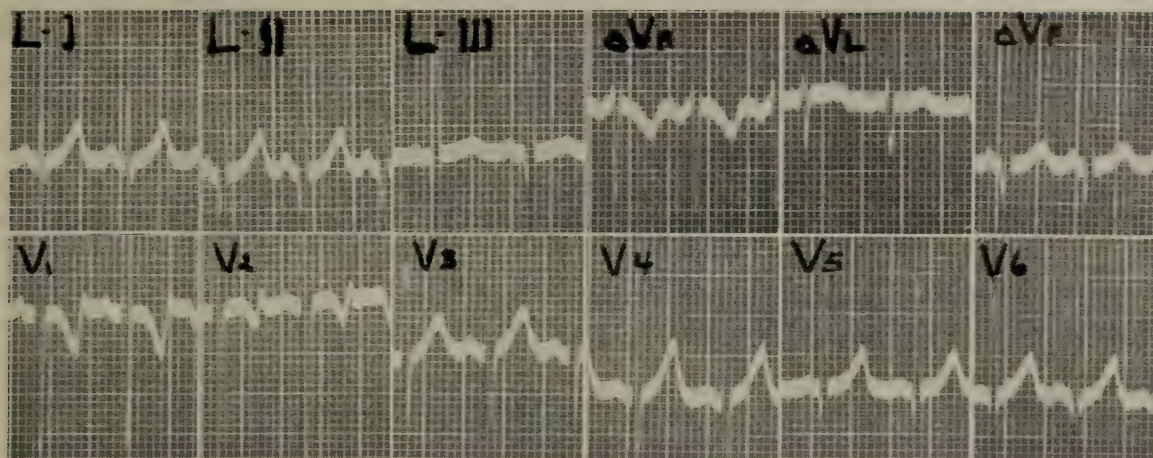


Fig. 3.—This is a normal tracing on a 10 year old child. The heart is in a vertical position. The rate is rapid. The T waves are negative in V_1 and V_2 . These changes are considered within a normal range.

precordial electrocardiogram are based on individuals over fifteen. A recent investigation by Kuskin and Brockman¹ concerned the direction of the precordial T wave in 321 normal infants and children. They concluded that the T wave was inverted in CF-1, CF-2 and CF-3 normally in most children under five years of age. The T wave in CF-4 was

inverted in 8% of children under twelve but none over twelve. Very seldom were there inverted T waves in CF-5 or CF-6 unless the child was under two years of age. We need further studies on children in order to understand the normal variations in the precordial and unipolar leads. It seems that our problem now is to determine what is a

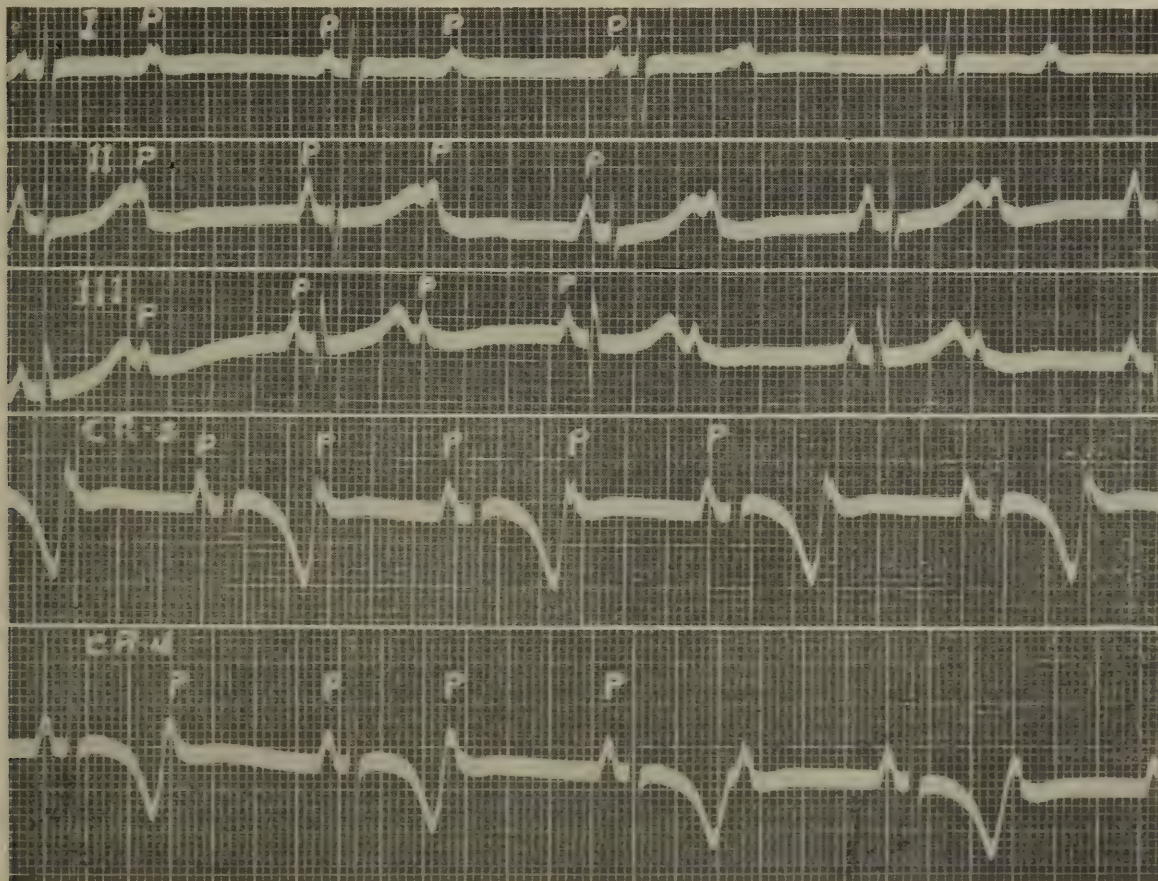


Fig. 4.—This is an abnormal tracing in a 3½ year old child with acute rheumatic fever. The P waves are notched and peaked. There is a 2 to 1 block. The T waves are very deep and negative in Leads CR_2 and CR_4 . They are most unusual for a child.

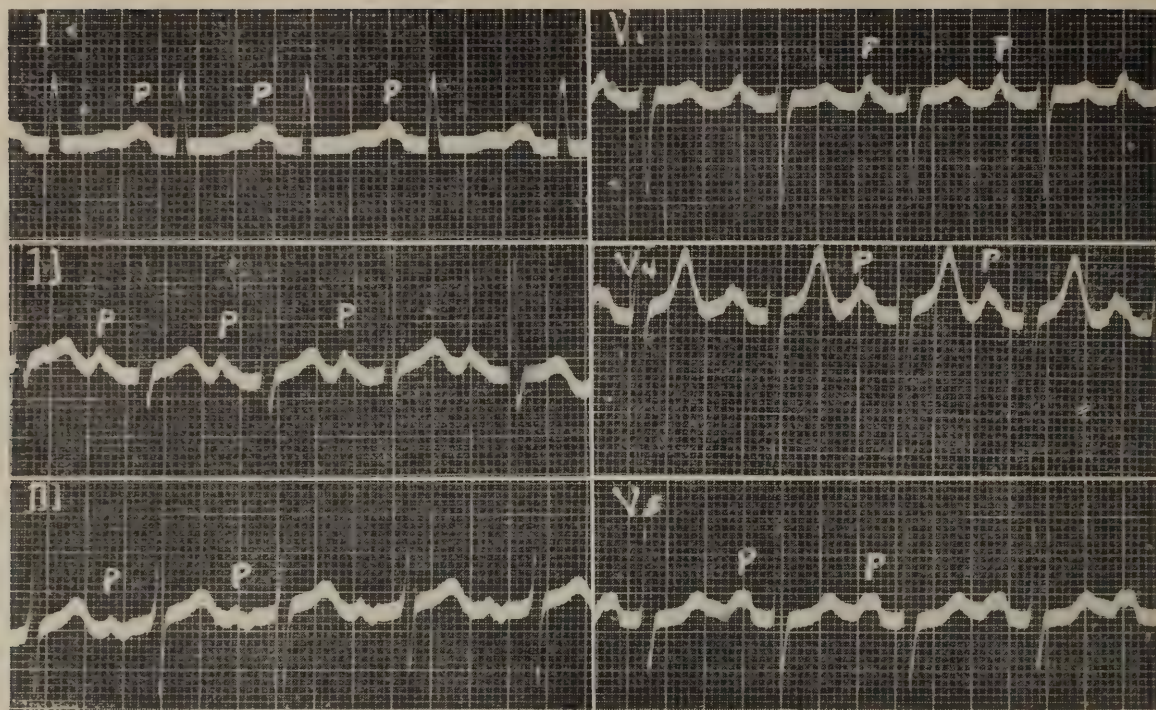


Fig. 5.—This is an abnormal tracing in an 8 year old child with acute rheumatic fever. The broad notched P waves usually indicate auricular hypertrophy. The prolonged P-R means first stage conduction block. The tracing is comparable to any adult electrocardiogram.

normal tracing for a child, when is the electrocardiogram abnormal for a child and, if the electrocardiogram is abnormal, what is its clinical significance?

There are certain facts that are well established.

At birth the right ventricle predominates anatomically and functionally. The heart is vertical in position and the axis deviation is usually to the right. As the child grows, the left ventricle becomes increas-

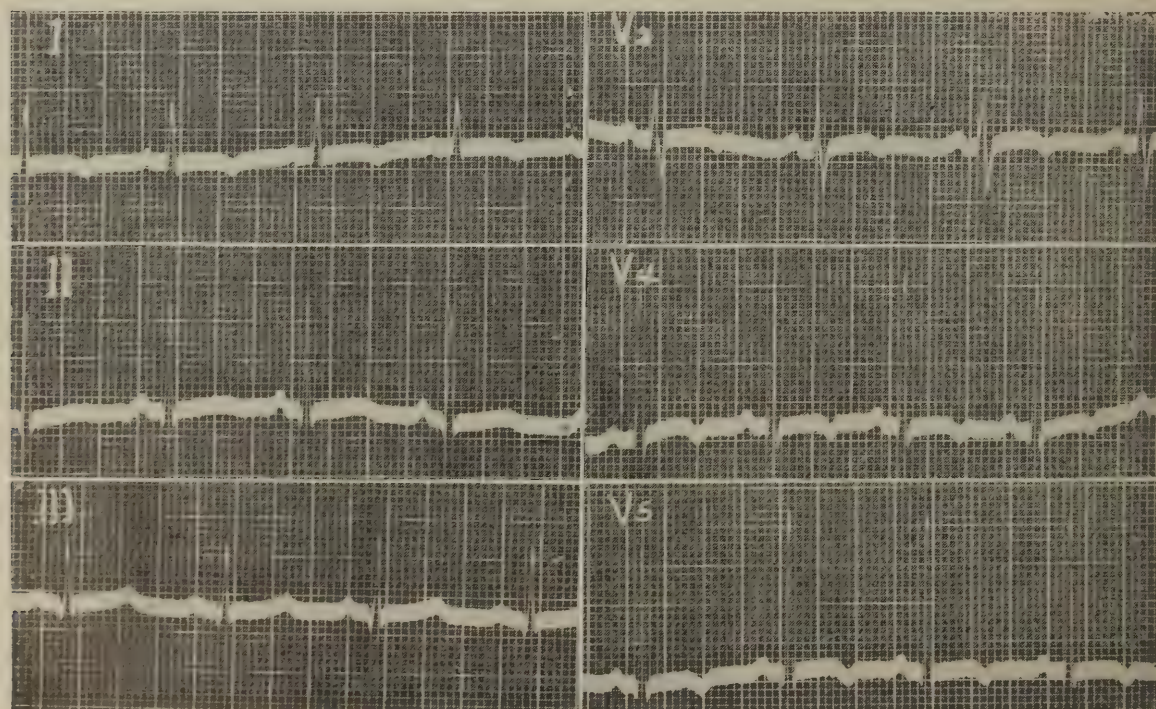


Fig. 6.—This is an abnormal tracing in a 15 year old child with acute glomerulonephritis. In this disease the electrocardiogram may mimic myocardial infarction. The S-T segments and T waves are abnormal in Leads I, II, V₁ and V₂.

ingly predominant and at the age of sixteen the left ventricle is usually twice the weight of the right. The heart assumes a transverse position and the axis deviation tends to the left. Frequently in children the P waves will vary in the limb leads. Sinus arrhythmia is quite common. There may even be a shifting pacemaker or nodal rhythm. These changes are not considered abnormal. In a vertical heart the S wave is deep in lead I and Q waves may be prominent in leads II and III. The T wave is frequently inverted in lead III and at times in lead II, especially if the heart rate is rapid. These changes are also considered within normal limits. The QRS conduction time is seldom prolonged to more than .11 second unless a Wolff-Parkinson-White phenomenon is present.

The precordial leads are very perplexing in children. Usually over the right ventricle, in V_1 , V_2 and V_3 , the P wave is diphasic or inverted. The R wave is small and the S wave is deep. As we move over to the left ventricle a small Q wave may be found and in V_5 and V_6 the R wave becomes higher and the S less deep. The major difficulty is understanding the T wave changes. We know that in adults the T is frequently inverted over the right ventricle in V_1 and V_2 but a negative T in V_3 , V_4 , V_5 and V_6 is considered abnormal. In normal children occasionally the T waves may be inverted in all six precordial leads. This has been seen when the heart is extremely vertical and there is some rotation. We believe that T wave inversion past V_3 , even in children, should be considered abnormal if there is a left-sided pattern. So, although inverted T waves in V_3 to V_6 are considered quite abnormal in an adult, these same changes in a child may have little significance.

Prolongation of the P-R interval beyond .20 second at a rate above 80 indicates first stage A-V conduction block. This has always been considered an early sign of rheumatic fever in childhood, but Graybiel, McFarland, Gates and Webster,² found that in an analysis of electrocardiograms obtained from 1000 young healthy aviators there were sixteen instances of P-R prolongation with 4 over .22 second. These findings on normal young adults have caused us to become cautious in our interpretation of slight P-R prolongation in children, although we still believe that, in a rheumatic fever suspect, the prolonged P-R should be viewed with suspicion. It

seems that a normal electrocardiogram in a child under fifteen at times might be considered abnormal in an adult. Therefore, in children we must consider the electrical position of the heart, and the T wave changes in relationship to the position of the precordial electrode. If we are unable to utilize most of our adult criteria for an abnormal electrocardiogram in a child, should we take the position that the electrocardiogram in children has very little clinical value and that it does not help us in a specific childhood cardiac problem? Most investigators do place major importance on their clinical findings, using the electrocardiogram as a simple laboratory aid. We believe that the electrocardiogram in the cardiac child may give invaluable assistance.

For instance, in congenital heart disease the electrocardiogram is seldom of diagnostic value and at times may be misleading, but we have found that in patent ductus arteriosus the electrocardiogram is usually normal and rarely, if ever, shows right axis deviation. If this deviation is present, then there must be some complicating congenital or other defect which might prevent a successful operation. The Tetralogy of Fallot always shows marked right axis deviation and at times right ventricular hypertrophy or strain. One would not be justified in making this diagnosis without right axis deviation. The electrocardiogram in coarctation of the aorta in children usually is normal. In later life left ventricular hypertrophy or strain is often present. Auricular septal defects are common as a congenital cardiac abnormality. The right ventricle may be markedly enlarged and the pulmonary artery prominent. The electrocardiogram frequently shows right ventricular hypertrophy or strain associated with right axis deviation. As this condition may be confused with patent ductus arteriosus, the electrocardiogram may help in distinguishing between them. Ventricular septal defects alone seldom interfere with cardiac function and the electrocardiogram is usually within normal limits. Therefore, the electrocardiogram is useful in evaluating a congenital defect that may be amenable to surgery.

In childhood one of our major problems is rheumatic fever and rheumatic heart disease. Unfortunately, the electrocardiogram is most disappointing as an aid in the diagnosis of early rheumatic fever. Most of our cases of rheumatic fever sus-

pects have normal electrocardiograms and only rarely do we see a prolongation of the P-R interval or any other unusual changes indicating heart involvement. Occasionally elevated S-T segments will indicate an early pericarditis. After the development of rheumatic heart disease the electrocardiogram may still show very few changes unless the unfortunate child develops heart failure; then the tracing will take on the characteristics of an abnormal adult electrocardiogram. There may be strain patterns, arrhythmias and digitalis changes. At this stage in the disease the electrocardiogram only substantiates the clinical picture.

In any general hospital, such as the Medical College of Virginia, bizarre electrocardiograms are often seen in children. Hypothyroidism is frequently recognized in the electrocardiogram by the finding of bradycardia, low voltage, and T wave inversion. Abnormal T waves are frequently seen in pneumonia, typhoid fever and brucellosis. The electrocardiogram in acute glomerulonephritis may mimic myocardial infarction or ventricular strain with marked S-T and T changes and varying abnormal rhythms.

In fact, at times the electrocardiogram in a child may only confuse the clinical picture and rarely does the tracing give specific information such as that in acute myocardial infarction.

In conclusion, this is almost a negative report as far as the value of an electrocardiogram is concerned in children. We need better criteria and larger group studies of normal children so that we may understand the normal electrocardiogram in a child. At present the electrocardiogram in congenital heart disease is very helpful. Occasionally early rheumatic fever may be suspected by abnormalities in a tracing. The electrocardiogram is usually of secondary importance in children and then must be correlated with the clinical picture.

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Hospitals and Schools Named to Choose Candidates for Mead Johnson Award.

Five hospitals and the five medical schools were selected to nominate candidates for the Mead Johnson General Practice Scholarship awards offered by the American Academy of General Practice.

The hospitals, representing various sections of the country, are now submitting the names of interns to be candidates. From the total of 15 interns—three from each hospital—the Academy committee will select the five winners, who will receive \$1,000 scholarships each for one year's residency training in general medicine and surgery.

Medical College of Virginia, Richmond, is one of the five medical schools, selected to name seniors

eligible for the awards for residency work starting in 1953. Names of the winners will be released on March 24 during the Annual Scientific Assembly of the American Academy of General Practice in Atlantic City.

The Committee, all members of the A.A.G.P., is composed of Drs. Wm. G. Hildebrand of Menasha, Wis., W. H. Anderson of Boonville, Miss., Mary E. Johnston of Tazewell, Va., Dave Dozier of Sacramento, Calif., H. Kenneth Scatliff of Chicago, Ill., and Fred M. Humphrey of Ft. Collins, Colo. These doctors act as trustees of a fund contributed by Mead Johnson and Company, manufacturers of nutritional products, to the Academy for outstanding medical students' residency scholarships.

THE FIGHT AGAINST CANCER AND SOME OTHER CHRONIC DISEASES

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and

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A number of diseases have been selected for special attention by medical researchers. The medical profession in general, by extensive propaganda, some good and some bad, has enlisted public support by intimidation and otherwise, so that now there is extensive levying on the public for funds to keep up their scare, particularly in reference to cancer, poliomyelitis, chronic arthritis, diabetes, heart disease and some other disease. Undoubtedly some good has been accomplished by these so-called "fights" against disease, but on the other hand, one cannot deny that a reign of terror has been initiated among those who have not been convicted of cancer, but who are afraid they are guilty nevertheless. Before the public heard so much about cancer, only those who had the disease and their families suffered, but now thanks to the almost continuous stream of propaganda in the press and lay periodicals, mass psychosis and neurosis have been created, affecting a large part of the population with great mental suffering.

Some years ago the moving picture industry produced a film entitled "Dark Victory". One could trace the progress of this picture through the country by the anxious neurotics who thronged the doctors' offices with a mistaken self-diagnosis of brain tumor. We know of few adults, perfectly healthy or otherwise, who do not have at sometime a symptom which might also be found in brain tumor.

Of course, it might be claimed that it is better for many people to have neuroses or psychoses than for them to die of cancer. This is debatable, however, because people with psychosis or neurosis are generally apt to become pretty useless citizens and they certainly are a trial to the medical profession. Besides, the creation of psychoses in the non-cancerous does not contribute to the success of a cancer campaign. In other words, the production of mass psychosis and fear is a poor way to fight cancer.

The object of this short discussion is to call attention to this propaganda and to suggest that it be confined more to the profession or if it is necessary

for it to go to the lay public, then have it more carefully scrutinized in order to induce as little nervousness as possible in those without cancer. In other words, we think the profession might be alerted, but the public should be spared unnecessary alarm in these campaigns.

A great deal of the publicity makes claims that run ahead of actual achievements. In this connection, an excerpt from an editorial in the *New England Journal of Medicine*, July 26, 1951, which reads as follows might be quoted: "Premature publicity, indeed publicity of any sort concerning disease and its treatment is a dangerous tool unless carefully handled."

We do not have at hand the number of deaths from cancer but we believe the damage to the Virginia population from automobiles is greater than that of cancer; furthermore, the automobile victims are usually young people. These zealous crusaders might direct at least part of their efforts toward the reduction of automobile accidents which are a real danger to a far greater number of people.

Poliomyelitis is a favorite theme for propaganda although the number of polio cases in the state of Virginia is relatively small and only about 20 to 30 per cent of these are seriously affected. This propaganda is perhaps mixed up with the New Deal and some time ago got off to a flying start.

One of us (C.C.C.) visited a hospital recently where children who had had acute rheumatic fever were supposed to be kept for rest. The jungles of Brazil probably do not have more active monkeys than the children in that rest ward. So far as rest was concerned, it must have been the wrong day for visitors. I was passing down the ward when one child, supposed to be in his "resting phase", jumped across the aisle from the high rod of one bed to another. It was necessary for me to make a quick dodge to escape physical injury. One wonders if sensible mothers under intelligent medical direction could not have given these children a better chance

at home without so much expense to a long suffering public.

Seriously, it does seem that the time has come to regulate these research projects. It also seems that they might be more limited in number and improved in quality. We do not believe that every hospital receiving grants for research and claiming to be a so-called "cancer center" is going to contribute to the solution of the cancer problem. At the same time, the people are paying a tremendous amount of money to indulge these so-called cancer experts and the cancer "fight" is thought by some to have taken on the nature of a racket. We realize it is not a popular role to be an objector to the emotional whims of the people, whether they be the professional or the lay people. A man gets older and somewhat wiser

and if at the same time he becomes more conservative he is accused of old-fogeyism and moral cowardice. One result of the extensive and multiple propaganda campaigns for various chronic diseases is the change in the attitude of the general public. It used to be difficult to get patients to submit to urgently needed operations. Now the difficulty lies more frequently in trying to persuade the patient that he does not have a surgical condition and needs no operation.

Of course, we are thoroughly in sympathy with the idea that the professional mind should always be open to any important advances in medical science, but on the other hand, all new things are not necessarily advances and while we admit some skepticism, we are always willing to be shown.

Many Heart Conditions Merely Form of Neurosis.

Many persons who believe they are suffering from heart trouble are really in perfect physical health and are merely neurotic, according to an article in *October Today's Health*, published by the American Medical Association.

More than half the symptoms of heart trouble arise from emotional difficulties, according to the authors of the article, Dr. Lewis J. Burch and Isabella C. Miller, of New Kensington, Pa.

"The heart is a highly complex but amazingly efficient organ," the article pointed out. "It can instantly meet the most widely varying conditions and exigencies and adjust to most of the abuse we give it. Yet it is extremely sensitive. This very sensitivity of response accounts for many cases of supposed heart trouble, for the heart feels and immediately responds to the impact of emotional stimuli.

"Our hearts normally respond to the stimuli of bodily needs. Just so, a sudden emotional stimulus

can increase the pulse rate. Unfortunately, the heart will also respond to neurotic emotional stimuli."

How quickly a heart neurotic can be cured depends upon the person, the authors reported. The patient must be able to face realities instead of taking refuge behind the assumption of invalidism, and must be determined to think and act as cheerfully and pleasantly as possible.

Five suggestions given by the authors on how to combat a neurotic heart condition are:

1. A thorough physical checkup by the family physician to make sure there is no organic disease.
2. An honest appraisal of personal life, including every fear, doubt, irritation and frustration. Diversion of energies to constructive activities.
3. A check of eating and food habits. When general health is improved by proper food and eating habits, mental outlook becomes more cheerful.
4. The spending of leisure time pursuing some pleasant hobby or just resting.
5. Taking proper physical care of one's self.

MELORHEOSTOSIS LERI—REPORT OF A CASE

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and
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Melorheostosis Leri is a rare bone disease first described by Leri and Joanny in 1922. The disease is characterized by pain in the affected limb which may vary from vague to sharp, aggravated by exercise and relieved by rest. Physical findings are non-specific. There may be thickening of the bones involved and occasionally a knobby appearance may be present. The diagnosis rests entirely on the x-ray findings which demonstrate hyperostosis of the affected limbs, confined to one aspect of the limb, either medial or lateral. The hyperostosis often appears as if an excessive amount of bone had been poured down one aspect of the limb, giving the appearance of molten wax streaming down one side of a candle.

Excellent reviews of the literature have been given, and no attempt has been made in this report to describe all of these. Notable among the papers, however, were the reports by Franklin and Matheson¹ and Spiegel and Koiransky². The former reviewed

of the body were involved. Of the cases reviewed by Franklin and Matheson five had microscopic examinations. These showed increased vascular pattern, obliteration of the vascular lumina with perivascular ossification and atrophic mucosa.

The etiology is obscure and many hypotheses have been offered including the following: infectious agents, endocrine disturbances, vasomotor disturb-



Fig. 2.

ances, embryonic lesions, and subperiosteal telangiectases.

Spiegel and Koiransky² gave an excellent review of the literature and added another case, totalling fifty-one cases at the time of their report. Their case occurred in a thirty-one year old male who complained of a dull ache in the left knee. Roentgenograms revealed a dense shadow two by seven centimeters lying along the cortex of the medial side of the lower end of the left femur.

They state that the essential microscopic finding is fibrotic infiltration of the trabecular structure of bone, and fibrotic replacement of the marrow. They further state that malignant degeneration does not occur nor do pathologic fractures occur.

CASE REPORT

J. W., a twenty-five year old colored male, was admitted to the hospital with the chief complaint



Fig. 1.

the literature from 1922 to 1942 and added a single case. During this period thirty-eight cases had been reported, nineteen in males, eleven in females, with the sex of eight cases not stated. The ages varied from six to forty-nine years.

Their case, a forty-one year old white female, was unusual in that most of the bones of the right side

of pain and swelling of the left ankle, aggravated by walking or long periods of standing. He stated that approximately eight years ago he injured his ankle in a motorcycle accident and wore a cast on his ankle for two to three months. Following this he had continuous low grade pain which would sub-

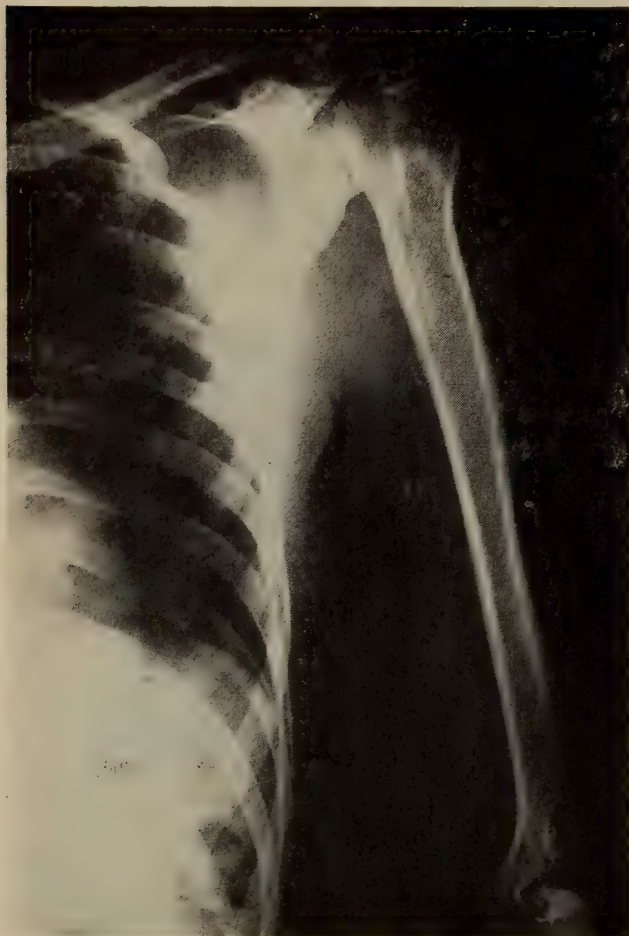


Fig. 3.

side with rest. Further questioning revealed similar complaints involving the left upper arm and shoulder. These symptoms were aggravated by exercise involving the left arm and subsided with rest. Physical examination showed slight soft tissue swelling of

the left ankle, but no unusual bony deformity.

Roentgenograms of the left ankle showed a density along the medial aspect of the tibia in its lower one-fourth, just beneath the cortex which measured ten centimeters by one centimeter.* There was slight irregularity of the margins of the density, but the typical tallow drippings appearance was lacking. There was no roentgen evidence of old fracture. It was thought that this density was probably present eight years previously, and mistaken for fracture.

Roentgenograms were made of all of the long bones, and a somewhat similar density was seen along the medial aspect of the left humerus in its upper one-half.† No other abnormal roentgen findings were seen in the remaining long bones. On the basis of these findings it was thought that the diagnosis of melorheostosis Leri was most plausible.

SUMMARY

A case of melorheostosis Leri occurring in a twenty-five year old colored male has been presented. The lower left tibia and upper left humerus were involved. The patient's complaints were pain in the left ankle and arm associated with exercise. The disease, of unknown etiology, was first described by Leri and Joanny in 1922, and is characterized by hyperostosis confined to one aspect of the bone. It may give the appearance of tallow drippings on a candle, though this is not a constant finding. The treatment of the disease is non-specific.

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Medical College of Virginia—Hospital Division

*Figs. 1 and 2.

†Fig. 3.

ANALYSIS OF CESAREAN SECTIONS IN A GENERAL HOSPITAL

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and
J. R. KIGHT, M.D.,*
Norfolk, Virginia.

A recent analysis of the Cesarean sections performed in DePaul Hospital, over a period of three years, has revealed favorable results as compared with similar studies reported by other institutions. The series is relatively small and, although the results are interesting, certainly they are not conclusive. To obtain a larger series would necessitate a greater time interval and therefore greater variation in techniques and medicines prescribed. Reports of many large series are available but most of these are from teaching or closed staff institutions. A report on the results obtained in an open staff, non-teaching institution, it seems, would be of value for comparative purposes with similar institutions.

DePaul Hospital is a general hospital with a capacity of 258 beds. The obstetrical and gynecological staff is composed of physicians limiting their work to this speciality and also general practitioners, some of the latter having major obstetrical privileges. Approximately 87% of the admissions are white patients and 13% of the obstetrical cases are admitted on the Clinic Service.

As shown in Chart I, there occurred 5,141 births

ean section 35 times, or 16.2%, and the extraperitoneal Cesarean section 3 times, or 1.4%. There was a decrease of 20.6% incidence of classical procedures performed in 1950 as compared with 1948.

No maternal deaths occurred, during this three year period, during or following a Cesarean section operation.

When applying the definition of morbidity as a temperature of 100.4 degrees F. on two consecutive days, excluding the first 24 hours following delivery, maternal morbidity occurred in 41 cases, or 18.9%. That antibiotics or chemo-therapy—when given prophylactically or early—influence this incidence, is a known fact, but the above criteria are believed to be fairly satisfactory in estimating this postoperative condition. It is interesting to note that the incidence of morbidity, following the classical and low cervical Cesarean sections, was approximately the same, also that the lowest morbidity in this series occurred in 1948, at which time the amount of antibiotics and chemo-therapy prescribed was the lowest for the three year period.

Of 219 infants delivered, 11 were stillborns and

CHART I

Years	Number of Births	CESAREAN SECTIONS								MATERNAL MORTALITY		FEBRILE MORBIDITY	
		Number	Incidence Per Cent	Number Low Cervical	Low Cervical Per Cent	Number Classical	Classical Per Cent	Number Extraperitoneal	Extraperitoneal Per Cent	Number	Per Cent	Number	Per Cent
1948	1802	78	4.3	56	71.8	21	26.9	1	1.3	0	0	13	16.9
1949	1621	58	3.6	47	81.0	9	15.5	2	3.5	0	0	14	24.1
1950	1718	80	4.6	75	93.7	5	6.3	0	0.0	0	0	14	17.4
Total	5141	216	4.2	178	82.4	35	16.2	3	1.4	0	0	41	18.9

during this three year period, 216 having been delivered by Cesarean section—an incidence of 4.2%. The low cervical Cesarean section operation was performed 178 times or 82.4%; the classical Cesar-

5 neonatal deaths occurred, yielding a gross fetal mortality of 7.3%. By excluding all infants known dead in utero prior to the operation, the corrected fetal mortality is 1.8%. During this same three year period discussed, the fetal mortality for vaginal deliveries was 3.7% and the corrected percentage,

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on the basis of the number of infants known dead in utero, was 1.7%—a variation of only 0.1% between the fetal mortalities of Cesarean section deliveries and vaginal deliveries when corrected.

Indications for Cesarean Sections, as shown in Chart II, have been divided into seven groups:

1. Fetopelvic disproportion
2. Previous Cesarean section
3. Hemorrhage
4. Toxemia
5. Uterine inertia
6. High social value of child
7. Miscellaneous.

CHART II

INDICATIONS FOR CESAREAN SECTIONS					
	1948	1949	1950	Total	
	Number	Number	Number	Number	%
Fetopelvic -----	36	26	35	97	44.9
Disproportion					
Previous -----	18	10	24	52	24.0
Caesarean Section					
Hemorrhage -----	15	15	10	40	18.5
Toxemia -----	1	0	4	5	2.3
Uterine -----	3	1	0	4	1.8
Inertia					
High Social -----	2	2	2	6	2.9
Value of Child					
Miscellaneous ---	3	4	5	12	5.6

Fetopelvic Disproportion. In this group are included all cases which revealed by clinical observation and/or by Roentgenography, disproportion between the fetus and maternal pelvis. In this group there were 97 cases, or 44.9%.

Previous Cesarean Section. This constituted the second largest group in the series with 52 cases, or 24%. There is a definite variation between the years. In 1948, 23.1% of the cases were sectioned because of having had the operation previously; in 1949, only 17.2%, while in 1950 there were 30%. The number of operations occurring on those patients, having had their previous operations in this hospital during the time of this series, is too small to be of any consequence. The variation between the years cannot be explained, but it should be stated that, although some cases are delivered vaginally following a previous Cesarean section, the majority of patients, who have had a previous abdominal delivery, are subjected to a repeat Cesarean section.

Hemorrhage. In this group are included cases of both placenta previa and premature separation of the normally implanted placenta. There were 40 cases, or 18.5%. Likewise in this group there is a marked variation between years with 19.2% in 1948, 25.9% in 1949, and 12.5% in 1950. It is believed that the lower rate during the last year of this series can, in part, be explained by the fact that more cases of vaginal bleeding, especially premature separation of the normally implanted placenta, were delivered vaginally, while in the other years of this study nearly all cases of severe vaginal bleeding were treated by means of a Cesarean section.

Toxemia. Preeclampsia that failed to respond to conservative therapy, was treated by Cesarean section in 5 cases during this period, an incidence of 2.3%.

Uterine Inertia. This was the indication, *per se*, for operation in 4 cases or 1.8%. The incidence of uterine inertia has dropped from 3.9% in 1948, to 1.7% in 1949 with no cases in 1950.

High Social Value of Child. This category may be explained by stating that it is not that we do not place a high value on each and every child, but we feel that there are a few women with limited possibilities of subsequent pregnancies which this terminology best describes. In this group, there are the older women in whom there is history of infertility and those in which the outcome of previous pregnancies had been disastrous at the time of vaginal delivery. In this group there were a total of 6 cases or 2.9%.

Miscellaneous. In this group are those cases in which indication for Cesarean section operation was based on recent fractures of the pelvis, malposition of the infant, previous plastic surgery to the vulva, vagina, cervix, or anus, congenital defects of the lower genital tract or systemic diseases—conditions in which vaginal delivery was not deemed advisable. There were 12 cases, or 5.6%.

COMMENTS

The average stay in the hospital for a patient having had a Cesarean section was ten days, the number of hospital days not changing during the three year period. The amount of early ambulation was approximately the same or slightly increased during this period of time. The chief difference between those cases treated in 1948 and 1950 was

the frequency of administering whole blood transfusion, antibiotics and chemotherapy.

In 1948, 51.3% of the patients having a Cesarean section received a whole blood transfusion, 19.2% of these having received the blood in the operating room; while in 1950, 83.8% of the patients received whole blood, and 77.5% of these had blood administered at the time of the procedure.

The type of anesthesia varied. There were 80 cases in which spinal was used, 135 administered some form of inhalation anesthesia, and 1 case under local anesthesia. The type of anesthesia did not appear to have any relation to the febrile morbidity or fetal mortality inasmuch as there were an equal number of each among those having spinal and general anesthesia.

It impresses us that two additional findings deserve further comment:

First: The incidence of morbidity was not increased in those cases having had the classical type

Cesarean section as compared with the low cervical operation, but we are well aware that our criteria for morbidity does not give a complete picture of the postoperative course, and probably plays only a small part, if any, in the potential incidence of rupture of the uterus during subsequent pregnancies.

Second: It is our belief that many of those cases listed as cephalopelvic disproportion were primarily cases of uterine inertia. We are impressed by the number of cases with borderline pelves that, during a test of labor, were diagnosed disproportion in the presence of ineffective uterine contractions. We are likewise impressed by the incidence of those cases having a borderline disproportion clinically or by x-ray pelvimetry that were delivered vaginally without difficulty following a brief active labor. We believe that the actual incidence of uterine inertia is far greater than reported above and that the incidence of definite disproportion is much less than recorded.

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This was an important treatise in its time; it shows that the author applied podalic version to head presentations.

CLINICOPATHOLOGICAL REPORTS

From the Case Records of the Medical College of Virginia and the
University of Virginia Hospitals

HARRY WALKER, M.D., *Editor*

WILLIAM KAY, M.D., *Associate Editor*

CASE NO.: 72.

This 40 year old, single colored woman was admitted to St. Philip Emergency Room on 3-6-51 by ambulance and died very suddenly two hours later. The ambulance physician stated that when she was first seen she complained of a sudden onset of pain in the upper abdomen and lower left chest beginning about 18 hours previously. This was accompanied by shortness of breath, chills and fever, and a painful, tender left arm. There was no radiation of the chest pain or epigastric pain. There was some cough, but no hemoptysis, and some nausea and vomiting. The pain and breathlessness continued throughout the night until admission. It had not changed in severity nor was it related to respiration. The pain was described as sharp and as though constricting her chest. She was more comfortable in the sitting position.

Temperature 103.8 (R), pulse 120, respiration 44, blood pressure 98/70. She was apprehensive, dyspneic, and complaining of epigastric and lower chest pain. She was sitting up and refused to lie down or be propped in a semi-erect position. There was moderate distention of her neck veins and large congenital varicosities of the left arm. This arm was warm and tender throughout but not cyanotic. There was normal tactile fremitus and resonance over both lungs posteriorly. Moist rales were heard at both bases. Resonance was diminished in the left axilla with many fine rales in the left axillary space and left lower anterior chest with suppression of breath sounds. The apex beat of the heart was felt best in the 5th interspace in the anterior axillary line. No murmurs were heard. P_2 was loud and greater than A_2 . The rhythm was regular. The liver was enlarged 5 or 6 finger breadths below the midline and moderately tender. The abdomen was distended and a fluid wave was present. No peripheral edema. Pelvic was not done.

The patient was given nasal oxygen and 75 mgm. of demerol by hypo but she died very suddenly 2 hours after admission.

She had a voluminous hospital record dating back

to 1945 when, at the age of 34, she was admitted for rectal strictures due to lymphopathis venereum. At that time it was noted that there was a "diastolic apical murmur and another less pronounced at the aortic area. Valve sounds are noisy. Heart rate regular. Hypertrophy to the left." The abdomen was distended and fluid was thought to be present. She ran a spiking temperature up to 104.6 and was treated with sulfadiazine and penicillin. She had her rectal strictures dilated under anesthesia. On one occasion upon return from the operating room a brawny edema in butterfly distribution over the nose and under the eyes were noted. The skin was red and tender. The next day the lesion had not spread but there was diffuse soft enlargement of both parotid glands, which were tender. These lesions were thought to be due to erysipelas and apparently subsided, no other notes being recorded except one which said it was improving. The patient was anemic during this admission and received several transfusions.

The patient was next seen in September, 1948, complaining of abdominal pain, dyspnea and substernal pains on exertion. She was admitted to the hospital and described as being dyspneic, having venous distention and an enlarged heart. Blood pressure 115/88. P_2 greater than A_2 . There was a harsh systolic murmur over the mitral area. No diastolic murmur. The lungs were clear. The liver was enlarged 5 finger breadths. No ascites. X-ray of the chest showed a cardio-thoracic ratio of 66% with an aortic and mitral configuration. On fluoroscopy a prominent pulmonary conus and distinct aortic knob were seen. A widely pulsating vessel in the right hilar region was seen. Both right and left ventricles were enlarged. At times a diastolic murmur was heard in the 3rd interspace, 4 cm. from the sternum. It was diagnosed as a Graham-Steell murmur. EKG showed right axis deviation and right ventricular strain. The patient was digitalized and discharged considerably improved.

The patient was followed in the Cardiac Clinic and maintained fairly well on diet, digitalis, and

diuretics. In April, 1950, she was admitted to the hospital for further rectal dilation under anesthesia.

Laboratory studies throughout all of her admissions showed a consistently positive Frei test, a pos-

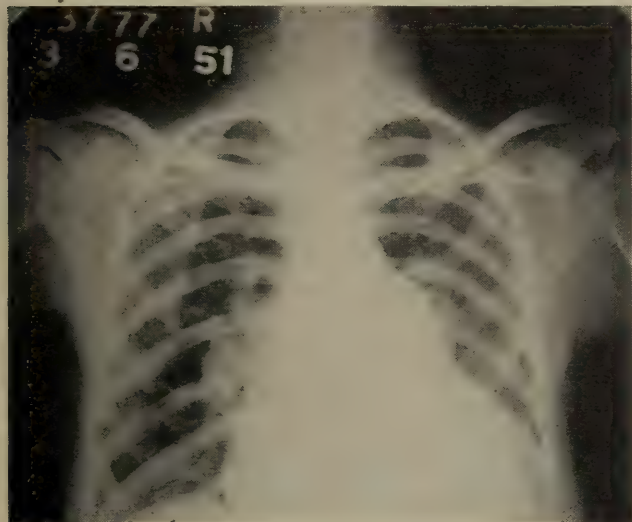


Fig. 1. The heart is enlarged with a prominent pulmonary conus and a mitral configuration.

itive Wassermann and a hemoglobin which varied from 50% to 90%. She was last seen in the clinic on February 28th, when she seemed to be getting along fairly well. She had a few rales at her lung bases and her liver was enlarged as before. She was given diuretics and continued on digitalis.

DISCUSSION BY DR. NATHAN BLOOM*.

This most interesting case should be divided into two parts, the first comprising a discussion of the last six years of this patient's life, and the second an attempt to correlate the acute episode leading to the patient's death. We are immediately confronted with the malady known as lymphopathia venereum, which at the age of 34 had probably completely incapacitated this patient. She was admitted to the hospital for treatment of an anorectal stricture, which is a complication of this disease. This type of stricture is usually found 5 to 8 cms. above the anus. It has a cylindric or annular distribution and is accompanied by a varying proctitis, which may be ulcerative. On this admission the patient had high fever and severe anemia, but improved after several transfusions, sulfadiazine, penicillin, and dilatation of the rectal strictures. There were diastolic murmurs heard over the apex and the aortic area, the heart was thought to be enlarged and it was also

noted that the abdomen was distended with fluid. A peculiar facial rash was recognized but it apparently disappeared very promptly.

The next note concerning this patient on the protocol is three years later. This indicated to us that there had been some improvement in this patient's condition, but in September, 1948, she was readmitted to the hospital complaining of abdominal pain, dyspnea, and substernal pain. At that time attention was concentrated on her heart. There was evidence of heart failure, as the patient was breathless, the heart was enlarged and there was venous distention. The blood pressure was normal. The pulmonic second sound was accentuated. The heart murmur was now considered systolic over the mitral area, but a diastolic murmur was recognized in the third interspace to the left of the sternum. The liver was enlarged and x-ray studies of the chest revealed a markedly enlarged heart with a very prominent pulmonic conus and a widely pulsating vessel in the right hilar region. This was a most interesting observation. The electrocardiogram revealed right axis deviation and a right ventricular strain. The heart failure apparently improved on routine treatment and the patient was discharged to the clinic. Afterwards, she was seen at regular intervals in the clinic but was readmitted to the hospital in April, 1950, for dilatation of her rectal strictures. The laboratory findings of interest during these admissions were the positive Frei test, which is diagnostic of lymphogranuloma venereum, and a positive Wassermann. Varying anemia was also constant.

The patient was last seen at the clinic on February 28, 1951. A clinic note stated that there was still some slight heart failure and the constant liver enlargement.

Five days after this clinic visit the patient was suddenly taken critically ill with upper abdominal and lower left chest pain. This was accompanied by breathlessness, chills, fever, and a painful, tender left arm. There was some cough but no hemoptysis, some nausea and vomiting. These symptoms continued for eighteen hours and at that time she was seen by the ambulance physician, who immediately referred her to the hospital. She was found to be extremely dyspneic, unable to lie down, the temperature was 103.8, pulse 120, respiration 44, blood pressure 98/70. The neck veins were distended, and for the first time a description is given of large

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congenital varicose veins of the left arm and hand. The arm was warm and tender. There were findings in the left chest suggesting a disturbance in the left lower lobe. The heart was enlarged to the left, *but no murmurs were heard*. The pulmonic second sound was accentuated, the rhythm was regular, the liver was very large and tender, and the abdomen was distended with questionable fluid. There was no peripheral edema. Two hours later the patient died.

Discussion: Lymphopathia venereum is a most interesting malady. After the disease has progressed to the development of rectal strictures, very little may be accomplished by medical treatment other than rectal dilatation, combating the anemia and associated nutritional deficiency. Antibiotics have been suggested in the early stages of this disease. Colostomy is advocated when there is marked lower bowel obstruction. We wonder whether the hepatomegaly in our case could be secondary to the rectal disturbance. It is well known that chronic ulcerative conditions of the bowel are frequently associated with cirrhosis of the liver. Certainly there were changes in the abdomen in 1945, which suggested that the liver was enlarged prior to beginning heart failure in 1948. Another conjecture was the possible involvement of the liver due to syphilis. This is a rare finding, today, but could be possible in our case. Amyloid disease of the liver could have caused this enlargement and must be considered as a possibility due to the long standing suppurative rectal condition. We are inclined to believe that the liver enlargement was caused by several factors, heart failure, chronic rectal disease, and syphilis. The liver should show fatty changes, much fibrosis and possibly some cirrhosis, a so-called chronic hepatosis. We doubt whether the pathologist could definitely rule out syphilis as being a factor in its enlargement but do not consider the enlargement primarily on a cardiac basis, as even at death there was no evidence of peripheral edema, which should accompany marked right-sided heart failure with hepatomegaly.

The description of the heart murmurs is, to say the least, confusing. First, in 1945 they were described as being diastolic in time at the apex and aortic area. Then in 1948 a harsh systolic murmur was recognized at the apex and questionable diastolic murmur over the pulmonic area but, when the pa-

tient was in a terminal state, no murmurs were heard. The combination of cardiac enlargement, right ventricular hypertrophy, and a prominent pulmonic conus with accentuation of the pulmonic second sound, is enough evidence to indicate that murmurs of an organic nature probably had been present and certainly suggests valvular heart disease with major involvement of the mitral valve. The blood pressure was normal with no widening of the pulse pressure eliminating any serious aortic insufficiency. There was no past history of rheumatism but of course this does not rule out rheumatic heart disease. So we believe that this heart will show some evidence of mitral stenosis. Could there be some additional heart condition complicating the mitral stenosis? Well, the lack of fever except as a terminal event and the absence of embolic phenomena is against subacute bacterial endocarditis. An acute bacterial endocarditis is not as easily ruled out, although bacterial endocarditis is seldom superimposed on a seriously diseased valve. Is there a possibility that there was a congenital cardiac defect? We certainly may rule out many congenital anomalies. There was no history of cyanosis and clubbing. This eliminates tetralogy of Fallot and also the x-ray configuration, with widely pulsating hilar vessels, is against this disease.

The Eisenmenger complex is very difficult to eliminate as in this condition, although there is dextra-position of the aorta, hypertrophy of the right ventricle, and an interventricular septal defect, the pulmonic artery is dilated rather than stenosed. This causes an enlarged pulmonic conus and normal or even increased hilar vascular shadows. There is a right ventricular hypertrophy and there may be cyanosis and clubbing of the fingers, but at times cyanosis and clubbing are not present. So it is most difficult to rule out this type of congenital defect in our case.

At times, instead of having a combination of interventricular septal defect, pulmonic stenosis, hypertrophy of the right ventricle and dextra-position of the aorta (tetralogy of Fallot), uncomplicated pulmonic stenosis may occur. This condition is rather rare as compared to some of the other congenital abnormalities. When there is valvular stenosis, a fusion of the valve leaflets occurs, forming a dome with a central aperture. There is usually

dilatation of the pulmonic artery beyond the stenosed valve. In this condition the electrocardiogram will reveal right ventricular hypertrophy. X-rays demonstrate a very prominent pulmonic artery but the pulmonic vascular markings are normal or decreased. There is usually a pulmonic systolic murmur. The hemoglobin and red blood count are usually higher than normal. There may be rare cyanosis but no clubbing. We do not believe our patient had pulmonic stenosis because of the increased vascular markings of the lungs, the type of murmurs and no evidence of polycythemia.

Patent ductus arteriosus rarely causes a right ventricular hypertrophy. The pulse pressure is widened and the machinery-like ductal murmur is characteristic. Ventricular septal defect alone does not cause this type of cardiac enlargement and is not associated with right ventricular hypertrophy. There are several types of atrial septal defects, the most common being a patent foramen ovale. This is a tiny interatrial opening which usually admits a small probe. At times it may be considerably larger but seldom causes any disturbance alone. But the lower margin of the atrial septum at times remains open. This is known as the ostium primum. It usually closes during the fifth or sixth week of fetal life but when it persists may at times become quite large. In about 70% of individuals with atrial septal defect there is a complicating valvular lesion. Usually this is a mitral stenosis and brings us to the discussion of atrial septal defect with mitral stenosis, which was first recorded by Martineau in 1865, but was not fully described until Lutembacher's contribution in 1916. This French clinician emphasized the combination of the septal defect and mitral stenosis. Later McGinny and White reported 23 instances of this combination but it is still considered a rare condition. Some clinicians believe that the mitral stenosis is a congenital lesion rather than rheumatic but the majority opinion is that the mitral valve lesion is an acquired secondary rheumatic manifestation. The clinical picture is not difficult to recognize. The patients are usually delicate, cyanosis is absent, clubbing of the fingers is uncommon.

Arachnodactyly may be found. Murmurs may be both systolic and diastolic, at times typical of mitral stenosis. The electrocardiogram reveals a right axis deviation and right ventricular hypertrophy. The

diagnosis is confirmed by a characteristic x-ray. The heart is markedly enlarged with an enlarged pulmonic conus. There is extensive hypertrophy of the right ventricle, wide hilar shadows, and a diminished aortic knob. One is immediately struck by the peculiar enlargement of the pulmonic conus. So we are convinced that this is a case of Lutembacher's syndrome. The heart will be markedly enlarged, there will be a mitral stenosis, probably not too tight, the right ventricle and right auricle will be markedly hypertrophied, and there will be a large atrial septal defect.

Now we come to the portion of the case concerning the death of the patient. This was not a sudden death, as the patient lived for 20 hours after the onset, but the terminal state was rapid enough to make us consider several possibilities. It is difficult to rule out acute myocardial infarction, although the age of the patient, the fact that there was chronic valvular disease and cardiac hypertrophy, are all against this diagnosis. With the combination of mitral valve disease and an old history of syphilis, there is always a possibility of coronary ostial stenosis. This is certainly a rare complication of syphilitic heart disease of which we have no proof in our case. Involvement of the coronary ostial in a rheumatic case is rather unusual and we do not consider it as a possibility. The patient did not have any elevation of her blood pressure, which usually accompanies dissecting aneurysm. We may also rule out rupture of an aortic aneurysm into the pulmonic artery, as there were no characteristic murmurs suggesting this condition or any evidence of aortic aneurysm. The best possibility is that the patient had a massive pulmonary embolus or several pulmonary emboli involving the left pulmonary artery. We must remember that, if we are correct in the heart diagnosis, there is a possibility of paradoxical embolus through the atrial septal defect, but if so the embolic reaction would be in the greater circulation as well as the lesser and there is no indication of this from the protocol. The best possibility is a thrombophlebitis involving the veins of the left arm, as they are described as being enlarged and the entire arm was warm and tender. So we suggest that the thrombo-embolic complications involving the left lung were brought about by a thrombophlebitis in the left axillary or subclavian veins or in congenital hemangiomata of the left arm.

DISCUSSION BY DR. F. B. MANDEVILLE*.

We have a single postero-anterior film of the chest made at a 6 foot target-film distance on March 6, 1951 which shows:

1. Enlargement of the right auricle.
2. Enlargement of the right ventricle.
3. Enlargement of the pulmonary artery segment.
4. Enlargement of the branches of the pulmonary artery with engorged pulmonary vessels.
5. Enlargement of the left ventricle.

There is no record of fluoroscopy with the use of barium in the esophagus which should not deviate but pass straight down without impingement of the left auricle in cases of interatrial septal defect. An observation of "hilar dance", pulsation of pulmonary blood vessels would also be helpful.

Even with the limited roentgen data, I would favor interatrial septal defect.

In conclusion, our final impressions are:

1. Hepatomegaly due to chronic hepatitis, meaning fatty infiltration, cirrhosis, fibrosis, and chronic passive congestion in the liver.

2. Lutembacher's syndrome (atrial septal defect with mitral stenosis, marked hypertrophy of the right ventricle and right auricle).

3. Acute massive pulmonary embolus, left pulmonary artery, with pulmonary infarctions, primary site of thrombus either in left axillary or subclavian vein.

CLINICAL DIAGNOSIS

Interatrial septal defect.

Lutembacher's syndrome.

Eisenmenger's syndrome.

DR. BLOOM'S DIAGNOSIS

Lutembacher's syndrome (interatrial septal defect with mitral stenosis).

Cardiac cirrhosis.

Acute massive pulmonary embolus with infarction (source, axillary vein).

ANATOMICAL DIAGNOSIS

Primary pulmonary vascular sclerosis.

Dilatation and hypertrophy right atrium and right ventricle (cor pulmonale).

Cardiac cirrhosis.

Focal medullary hemorrhages adrenal (hypoxic).

Lymphopathia venereum stricture rectum.

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PATHOLOGICAL DISCUSSION

Dr. Gordon Hennigar*: The heart was large, weighing 550 gms. This increased weight was due to the hypertrophy of the right side. The tricuspid ring was dilated. All the valve leaflets were delicate. Accompanying the thickened right ventricular wall was a dilated pulmonary valve ring and main pulmonary artery (fig. 2). These findings, as we shall see

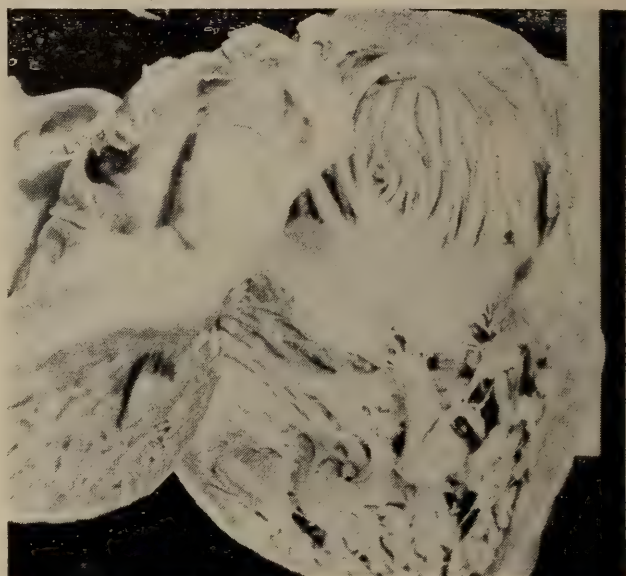


Fig. 2. The right side of the heart is dilated and hypertrophied. Prominent trabeculae carneae and musculi pectinati are evident.

later, resulted from the pulmonary hypertension, and explain—loud P_2 sound, and Graham-Steell murmur, as well as the prominent pulmonary conus on fluoroscopy. Dilatation of the pulmonary artery is a constant feature of primary vascular sclerosis and is found in over 90% of patients suffering from chronic cor pulmonale from various causes.¹ The gross configuration of the heart is not unlike that seen in the Eisenmenger complex, so that it is easy to see, as Dr. Bloom pointed out, this case could have fitted into this category. The heart differs from the Lutembacher type in that the left atrium is not dilated and hypertrophied. This, along with a mid-diastolic murmur (if heard), characterizes the Lutembacher syndrome.

The arterioles of the lungs showed medial hypertrophy, hyaline arteriosclerosis, hyaline arteriolonecrosis and tiny thrombi in their lumens. The small arteries were characterized by medial hypertrophy, necrosis occasionally, swelling and fibrosis of the intima with a few lymphocytes in this location (figs.

*Associate Professor of Pathology, Medical College of Virginia, Richmond.

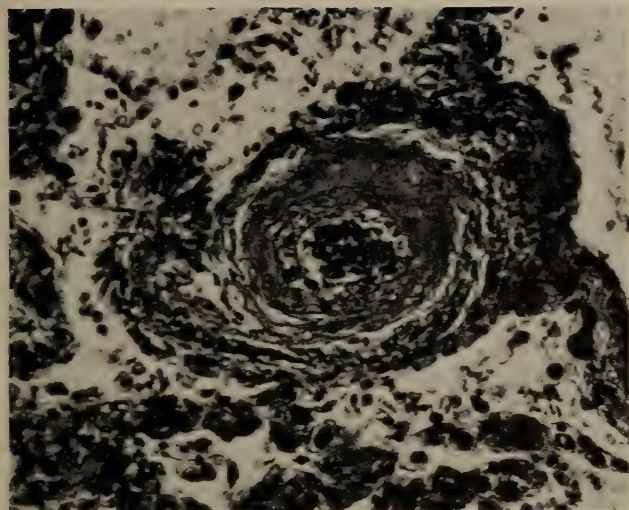


Fig. 3. Small pulmonary artery showing medial hypertrophy, endothelial swelling and luminal thrombus. The top half of the vessel has undergone hyaline necrosis.

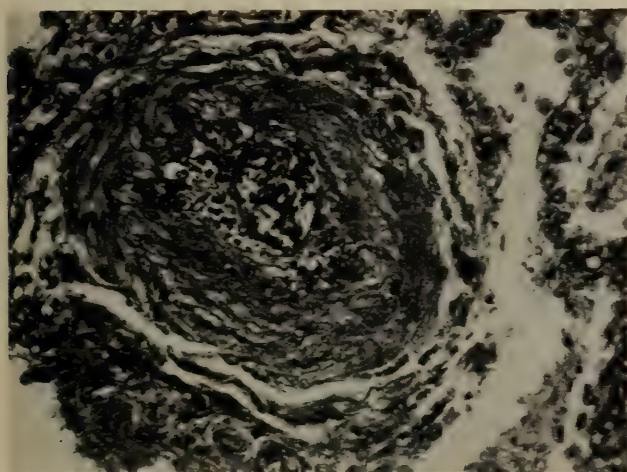


Fig. 4. Small artery showing medial hypertrophy, scarring and inflammatory lymphocytes in the intima.

3 and 4). The larger arteries revealed fibrosis of the intima. The largest branches of the pulmonary artery were the "seat" of atheromatous intimal changes. The latter resulted from the hypertension in the pulmonary circuit. There was no corresponding atheroma of the aorta and its large branches. The bronchial arteries were unaffected.

The liver weighed 2,250 grams and had the mottled appearance so characteristic of cardiac cirrhosis. This type of cirrhosis is seen most frequently in constrictive pericarditis, mitral stenosis, Lutembacher syndrome, and pulmonary stenosis.

However, milder degrees are seen in any patient when the pressure in the hepatic veins is greatly increased and especially when this is accompanied by hypoxia of the anemic or stagnant type. Cardiac cirrhosis is the end result of the severe "nutmeg"

liver. The total serum bilirubin is always somewhat raised with this type of liver lesion, but I have never seen it cause marked jaundice or liver insufficiency even in the presence of accompanying pulmonary infarction.

The remainder of the pathological examination was not revealing.

The present status of the etiology has been dealt with in a number of publications.²⁻⁶ Since Ayerza's publication, clinically characterizing a group of patients with cor pulmonale, pulmonary hypertension, cyanosis, dyspnea, polycythemia and sometimes clubbing of the fingers, great interest has been shown in this syndrome. We cannot refer to our case today as Ayerza's syndrome because we are lacking two components, namely, cyanosis and polycythemia. Also I do not believe we should refer to Ayerza's disease, because his group of cases were not autopsied and probably included cases of both primary vascular sclerosis and secondary vascular sclerosis. Many diseases of the lungs are capable of causing secondary vascular sclerosis, such as (to name a few) congenital heart disease manifesting defects in the septae, mitral stenosis, silicosis, bronchiolitis fibrosa obliterans, and uncommonly advanced interstitial pulmonary emphysema. The etiology of primary pulmonary vascular hypertension divides itself into two theories, namely, syphilis and primary vascular sclerosis analogous to the systemic lesions in essential and malignant hypertension. The only argument in favor of the former is the fact that this lesion has occurred in patients who have a positive Wassermann (as in this case) and/or syphilitic aortitis. The spirochaetes have never, to my knowledge, been stained in these lesions and inflammatory cells, when present, are not of the plasma cells variety. Furthermore, elastic tissue fragmentation is not seen in the media of the larger arteries. The only feature in favor of a primary vascular sclerosis is the fact that the lesions in the arterioles and small arteries morphologically resemble those seen in systemic hypertension. In other words, we are dealing with an idiopathic vascular sclerosis.

I am unable to explain the chest pain. Examination of the arm veins was not done for this would have required a special permit which we did not have. The probable cause of death was heart failure.

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PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.,
State Health Commissioner of Virginia.

A Study in Contrast

In Virginia in 1920 there were 4,370 reported cases of diphtheria, 1,888 of typhoid fever, and 3,559 of small pox. Last year, 1951, there were 194 reported cases of diphtheria and 61 of typhoid fever. There has been no reported case of smallpox in Virginia since 1944. This drop in incidence is due of course to the use of proven measures of prevention and control.

In regard to poliomyelitis, for which we have as yet no specific control measures, there were in Virginia in 1951, 267 reported cases and 6 deaths. In the peak year, 1950, there were in Virginia 1,200 reported cases of poliomyelitis and 62 deaths.

The contrast with traffic accidents in Virginia is illuminating. According to Mr. Hiram Smith, of the staff of the Governor's Highway Safety Committee, there were 1,000 traffic deaths in Virginia in 1951. In the preceding year, 1950, there were 915 dead in traffic accidents, 12,148 seriously injured and 9,692 slightly injured. And all of this without too much evidence of public awareness or alarm.

Let us imagine the situation if we had experienced 1,000 deaths and 20,000 crippled from a communicable disease—say poliomyelitis—last year. The hysteria would have become panic.

The anomaly is that the great majority of traffic accidents are preventable. It is rare that such accidents can be traced to mechanical defects. The causes are usually traceable to human faults such as speeding, carelessness and inattention, lack of courtesy, and driving under the influence of alcohol.

How can the public be aroused to center its attention on this daily increasing hazardous situation and to express determination that driving shall be safer and that traffic regulations shall be sound, observed and enforced?

The solution is in the hands of the public.

MONTHLY MORBIDITY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL

	January 1952	January 1951
Brucellosis	1	8
Diarrhea and Dysentery	405	263
Diphtheria	10	14
Hepatitis	54	2
Measles	944	542
Meningitis (Meningococcal)	18	14
Poliomyelitis	4	8
Rabies in Animals	48	3
Rocky Mountain Spotted Fever	1	0
Scarlet Fever	82	150
Tularemia	12	11
Typhoid and Paratyphoid	3	10

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,

Commissioner, Department of Mental Hygiene and Hospitals

Psychiatric Social Work in a Mental Hygiene Clinic*

In a mental hygiene clinic the three professional disciplines which compose the staff are the psychiatrist, the psychologist, and the psychiatric social worker. Patterns in relationships between these team members are sufficiently well established that those who have worked in a mental hygiene clinic anywhere in the United States will know what his role is expected to be in any other clinic. This uniformity of practice is brought about through the standardization of professional training in each discipline.

The psychiatric social worker discusses with community referral sources the services the clinic has to offer in relation to specific cases. He has the initial interview with the person who is referred to a clinic for help with an emotional problem. The heart of the profession of social work is helping individuals maintain their feeling of individual worth and dignity in the face of various types of problems and to utilize the resources at his command in such a way as to overcome the obstacles. The first step which the psychiatric social worker in the clinic takes, therefore, is to help the applicant to know that the clinic staff respects him and wants to be helpful. The social worker's skill in this is the direct result of training in understanding the significance of the information given by an applicant. Physical signs of tension contribute as much toward this understanding as the factual information. Observations are made as to: (1) tears, (2) gestures, (3) whether the applicant sits comfortably in his chair or on the edge of it, and other physical manifestations of tension. The social worker presents to the applicant the type of service offered by the clinic and helps him consider whether he can utilize clinic service in relieving his difficulties.

The information obtained in these interviews is carefully recorded by the social worker so that it will be available to other team members as psychological and psychiatric examinations are made, in

diagnostic staff conferences, and later as evaluations of progress are made.

If the reason for clinic referral is in relation to a child's difficulties, a parent is the person who is first seen at a clinic. It is often desirable to have two or three interviews with a parent before psychological and psychiatric interviews are scheduled. Usually both parents are seen during this initial study of the nature and extent of a problem. The parents are then in a better position to present to the child the nature of the clinic and what they hope to accomplish for themselves and for the child through clinic interviews.

When a diagnostic staff conference has been held and it is decided that the clinic can be helpful in the solution, or a partial solution, of the presenting problem, the staff decides which of its members can be of greatest help to those who are to come in for help. If a child is having severe difficulties in his relationships within his family and with others with whom he comes in contact, it is usually considered desirable for the psychiatrist to have weekly interviews with the child while the psychiatric social worker sees one of the parents. Sometimes each parent is seen in separate interviews.

Through her casework skills, the social worker helps the parents examine the possibility that in some way the parent is contributing toward, or playing into, his child's problems. Because of the universal need of parents to be good parents, the request for professional assistance in working out a better relationship with one's own child is not easy. It represents to the parent an expression of his fear of failure as a parent. The parent will not be comfortable throughout the process of examining his relationships with his child, and changing his attitudes and patterns of reacting to the child. He must feel that he is in control of the change within himself and that it is in the direction and at the rate that he wants it. He must be convinced that the social worker respects his personality and the social worker recognizes the fact that he has no right in life of the parent that the parent does not give him. As change

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takes place within the parent and as the child's symptoms are eliminated, the parent acquires a new sense of dignity, self-esteem, and accomplishment which gives him assurance that he will be able to handle future problems that may arise.

Psychiatric social work is a relatively new specialty in the social work profession. The American Association of Psychiatric Social Workers celebrated its twenty-fifth anniversary in 1951. The constitution of this organization defines a psychiatric social worker as one whose work is "undertaken in direct and responsible relation with psychiatry. Psychiatric social work is practiced in hospitals, clinics, or under other psychiatric auspices, the essential purpose of which is to serve people with mental or emotional disturbances." Also, according to the constitution of this organization, qualifications for membership require a Bachelor's degree and completion of graduate work in a school of social work, plus at least one year of experience in a paid position in psychiatric social work. If the curriculum is not approved by the Association of Psychiatric Social Workers, two years of experience in a paid psychiatric social work position is required. Depending on content of psychiatric experience in training, requirements for membership require supervision by a psychiatric social worker for at least six months during paid experience.

A graduate of a school of social work receives a Master's degree. The course is standardized in accordance with the American Association of Schools of Social Work. In general, courses given to social workers include factual information and on-the-job training, for which the student is not paid, for two

and a half to four days a week for a period of eighteen months. The factual information is usually given by teachers who are currently practicing in the profession from which the information is given, such as medical information, legal information, psychosomatic medicine, personality development, human behavior, deviations from normal behavior, and courses pertaining to the philosophy and development of the field of social work. Casework classes consist of study of cases which have actually been handled, with careful attention to those with both successful and unsuccessful outcomes. During the period of experience in a casework agency, the student is helped by the supervisor to scrutinize her own casework to evaluate the successes of her interviews with patients, or patient's relatives. At intervals an evaluation is made of the progress toward the solution of the presenting problem, with a careful appraisal of what the student has said which may have been helpful or hindering in the attainment of the goals in treatment.

A research project, or thesis, is required of all social work graduates. This consists of facts gathered in the course of the graduate training on a subject of current interest to the social work field and presented in accordance with scientific research methods.

A completely satisfactory code of ethics in social work has not yet been adopted. As personal integrity is of paramount importance in the selection of students by schools of social work, and as the training of students inculcates a respect for personal worth and the individual's right to make his own choices, confidentiality of information given to a psychiatric social worker is implicit in the profession.

THE MEDICAL SOCIETY OF VIRGINIA

The Council

At 2:00 p.m. on January 24, 1952, Dr. John T. T. Hundley, President, called to order the Council of The Medical Society of Virginia in the Richmond State Headquarters. In attendance were Dr. James L. Hamner, Dr. Ira L. Hancock, Dr. C. L. Harrell, Dr. Mack I. Shanholtz, Dr. A. A. Creecy, Dr. Walter P. Adams, Dr. Guy W. Horsley, Dr. Wilkins J. Ozlin, Dr. Louis P. Bailey, Dr. Frank A. Farmer, Dr. Harold W. Miller, Dr. Vincent W. Archer, Dr. James P. King and Dr. Lewis H. Boshier representing Dr. M. P. Rucker. Present also were Dr. W. C. Caudill, Dr. James D. Hagood and Mr. W. L. Painter of the State Department of Welfare and Institutions.

Speaking in behalf of the Department of Clinical and Medical Education, Dr. C. L. Harrell recounted the steps leading to the present financial condition of his Department. Explaining that the current budget item for operation of the postgraduate courses had been reduced by half, Dr. Harrell requested an additional \$500 appropriation. It was so moved and adopted.

Dr. Hagood, Chairman of the Legislative Committee, was recognized to give the report of this body which had met the previous evening. (The full report follows these minutes.) Referring to certain proposed changes in the Medical Practice Act, it was explained that the American Medical Association would continue to be the accrediting agency for medical schools. However, since the A.M.A. does not divulge the names of those schools not approved or not inspected, the State Board of Medical Examiners would be empowered, in the case of foreign schools to establish accrediting standards independently, based upon the Board's investigation or from information supplied by the license candidate.

Dr. Archer related an instance occurring in Petersburg whereby a patient was committed to Eastern State Hospital by the Lunacy Commission upon the signed petition of the patient's wife. After entering the hospital, the patient was declared sane and, subsequently, was successful in a law suit against his wife. A member of the Lunacy Commission had questioned Dr. Archer as to the liability of Commission members. According to Dr. Hancock, a Princess Anne County judge ruled that sole responsibility rested on the petitioner. Council directed that the advice of the Society attorney, Mr. R. C. Duval, be obtained and the matter be referred to the Legislative Committee if necessary.

Dr. Horsley displayed the office-opening announcement of a clinical psychologist, adding that such persons were licensed. Dr. King thought that these psychologists should be licensed only under the supervision of a physician. A report of an Arlington clinical psychologist practicing in violation of the Medical Practice Act which was presented to Council at its last meeting was re-read. It urged the Society to bring the matter to the attention of the State

Board of Medical Examiners with a request for investigation. A follow-up of this request was directed.

Having the privilege of the floor, Mr. Painter recalled briefly the State hospitalization program for the indigent and medically indigent operating since 1946, under which the State reimburses local hospitalization expenditures. Approximately \$1,500,000 was consumed last year by the State and localities in this program. Some 45% of these funds were utilized in connection with persons who were already receiving subsistence from public funds—children, aged and permanently and/or totally disabled. For these groups, federal reimbursement funds are available, the initial grant being made by the locality and repaid from state and federal funds. Under a 1950 amendment to the Federal Act, it is possible for hospitals, physicians and drugstores, supplying services, to receive direct payment. Continuing the welfare executive pointed out that substantial benefit could not be secured in connection with hospital payments. He cited an example of a person receiving \$40 a month subsistence. Such a person would be eligible to a maximum of \$10 a month hospitalization for life. A plan is now being discussed whereby a pre-payment arrangement would be developed and sums paid into a pool to be drawn upon for payment of services covered by the plan. Mr. Painter thought it would be possible to augment the present hospitalization program with a substantial amount of federal money. There presently exists \$700,000 in State money, some of which, however, is earmarked with the result that the entire amount cannot be utilized.

It was stated that the State Department of Welfare and Institutions considered the proposed program worthy of study, but that the General Assembly had not been approached on the subject. The Department would seek the appointment of a Legislative Commission to study the possibility of developing such a program to cover those persons receiving subsistence funds and normally not covered. It would be an extension of the current state-local hospitalization program, financed entirely by state and local funds and would be a means whereby federal funds amounting to possible 45% or 50% of the total expenditures could be obtained. Mr. Painter explained that this plan would not apply to the group recognized as medically indigent.

Having discussed this plan with Dr. H. B. Mulholland, Dr. Archer related the idea of issuing "John Doe" policies, thereby, avoiding the use of names. Dr. Archer favored the plan as a definite step forward in caring for the recipient group without the threat of federal domination.

In answer to Dr. Bailey's question if the \$3 a month for this plan would be deducted from the \$40 monthly subsistence, Mr. Painter replied that the \$3 amount would be paid in addition to the \$40 sum. Such a program would

be set up within limitations imposed by the State and would include hospitalization, physicians' fees, and drugs; fees would be determined by the inclusiveness of the plan.

Mr. Painter indicated that he had discussed the plan with Blue Cross officials and that they were interested to the point of obtaining further information. Blue Cross was one method mentioned by which the pre-payment plan could be secured. New Hampshire was reported as presently working out a similar arrangement.

Relating that each county has a contract with a hospital to pay a certain amount per capita per day, Dr. Bailey questioned the solution to the problem presented by the variation of costs in each hospital. In reply, Mr. Painter explained that the State would pay in to the plan a given amount a month while a company would carry the liability. The state official explained further that this plan would not be in lieu of the current state-local hospitalization program under which some sub-marginal groups are aided but that certain of these groups would be covered under the proposed program dividing costs with another program.

Carried unanimously was a motion by Dr. Archer that Council approve a study of the idea by the General Assembly in conjunction with a suitable committee of the Society.

After quoting certain figures relating the amount paid by the State last year, Dr. Hundley concluded that the State actually paid $\frac{1}{3}$ of the cost of indigent hospital care. He also pointed out the discrepancy in per capita amounts spent in the counties and cities of Virginia. Dr. Bailey commented that in instances where the locality operates on a 80-100% margin the State will pay 50% for indigent hospital care but that the fund is not federally matched. The difference is made up of local funds, not the State and Federal and, thus, the problem places the local community in a vulnerable position.

Next to be considered was the amendment to the Constitution and By-Laws of the State Society prepared by Mr. Duval which would allow cities as well as counties to be independently established as chartered component medical societies. Dr. Adams commented briefly on the events leading to the suggestion of this amendment. He further conveyed the sentiments of the Norfolk County Medical Society as being in favor of such a change. It was moved and passed that Council approve the amendment in principle and refer it to the Judicial Committee for action.

A discussion ensued concerning the setting up of district councils under new Article VIII, Section 7, page 21 of the By-Laws. Dr. Hundley opined that the Society had unwisely adopted a revision in this By-Law whereby the members of the district council would consist of one representative from each component society and one representative from each county having no local society. The Fourth District and Southwestern Virginia Societies were used as examples, it being pointed out that under the new By-Law these societies which consist of many counties would be entitled to only one member on the District

Council, thereby, reducing the effectiveness of the group. President Hundley further mentioned that he had instructed the State office to request each councilor to see that there were representatives from each county for the Public Relations Conference April 10, 1952. In the meantime, the assumption should be that there are members of the District Council from each of the counties in the State. It was directed that the matter be referred to the Judicial Committee for proper correction in the By-Laws. Recalling the original purpose of the District Council, Dr. Hundley and Dr. Archer added that the function of this group was to be capable of immediately assembling the full resources when needed for dissemination of information and expedient action.

Mr. Howard, Executive Secretary, reported the policy of the Jefferson Hotel concerning the attendance of Negro physicians at scientific sessions during the annual 1952 convention in Richmond. The hotel did not favor a blanket invitation to the Negro medical society. Such an invitation would create difficulties which the Jefferson is not equipped to meet in view of prevailing segregation laws. It was mentioned, however, that the presence of one or two Negro physicians as guests would not be objectionable.

A discussion followed concerning the progress of the committee appointed to study the question of the statewide attitude regarding the admission of Negro physicians to The Medical Society of Virginia. Being unsuccessful in its efforts to function, the committee requested that it be discharged. In response to several suggestions on the situation it was the consensus of Council that the matter should be reported back to the House of Delegates with no further steps being taken by Council to influence the question whatsoever.

Quoting that section of the Constitution and By-Laws of the State Society requiring constitutions of local societies to be in conformity with it, Dr. Hundley directed the office to continue with its plans to request a copy of the constitution of each component society.

Dr. Ozlin inquired as to the eligibility of members of a proposed society to membership in the State Society where the new group was composed of counties included in the Fourth District Society. In reply, Dr. Hundley reasoned that such eligibility would not exist so long as the charter of the Fourth District Society included those counties comprising the new organization.

Upon learning that the A.M.A. is returning 1% of dues collected to the Society for expenses incurred in the collection of A.M.A. dues, Council passed a motion that 50% be retained by the State Society and 50% be proportionately remitted to the component societies.

Future collection of A.M.A. dues was next discussed. It was reported that Dr. Hundley had been in correspondence with Dr. George F. Lull, A.M.A. secretary, and had favored forgiving delinquent 1950 A.M.A. dues in those cases where sincere misunderstanding existed. Having earlier advocated collection of A.M.A. dues on the national level, Dr. Lull advised that such procedure would

be impossible without a great deal of confusion. It was brought out that Dr. Lull had been authorized by the A.M.A. Board of Trustees to negotiate with the secretaries of state societies concerning delinquent dues. Virginia was reported as having collected 59% of 1951 A.M.A. dues and 79% for 1950, thus, having lost one delegate to the A.M.A. Dr. Hundley reasoned that the failure had been at the local secretary level.

Dr. King moved that the president appoint a committee to study the entire matter of dues and report back to Council. This committee should determine what method should be adopted in dues collection, including the advisability of setting up a double-entry bookkeeping system available to all societies. Recommendation should then be made to the House of Delegates. This motion was carried.

Dr. Ozlin moved that the State Office send statements for A.M.A. dues for the remainder of 1952. This motion passed unanimously. As delegate to A.M.A., Dr. Archer was instructed to continue with the matter of clarification of dues status and adjustment of back dues.

Regarding the status of A.M.A. delegates, Dr. Hundley ruled that Dr. Archer having the highest number of votes at the 1951 annual meeting would be the delegate, and the next in order, Dr. M. H. Harris, would be his alternate. This ruling was necessary since the State Society had elected two delegates in addition to incumbent delegate, Dr. J. M. Hutcheson, while Virginia A.M.A. membership as of December 1, 1951, would allow only two delegates.

A motion to accept the offer of Peoples Drug Company to cover the cost of the directory of members of The Medical Society of Virginia was adopted. In order to avoid criticism from advertisers and exhibitors, it was thought that a letter should be sent to each of them stating what had been done, explaining that it was a procedure which had not been followed previously and while we were not requesting such sponsorships from others, we were offering the opportunity. Any offers would be considered in order of their application.

It was announced that the Virginia Academy of General Practice had rented an office in the State Society headquarters, but that on the advice of the Society attorney, rental space had been declined a manufacturing firm. Dr. Hundley mentioned the expensive operating costs and urged suggestions of non-profit, non-commercial organizations which might be interested in office space.

The problem of sending delegates to various national meetings was referred to the Executive Committee to determine to which meetings the Society should be represented.

At the suggestion of President Hundley, the Council recommended that Dr. Rucker prepare an editorial concerning donations of material of historical significance pertaining to The Medical Society of Virginia and that a display of such materials be developed.

Being cognizant that some conflict with the By-Laws will arise in the proposed function of Reference Committees at the 1952 annual meeting, the president directed

that proper amendments to such by-laws be proposed after the reports of the committees have been adopted and acted upon. It was also directed that the procedure of these Reference Committees be explained by letter to the delegates prior to the convention.

Chairman of the Public Relations Committee, Dr. King, briefly reported on the plans of the committee, mentioning a series of radio programs on Station WRVA, recordings of which will be available to stations throughout the State. The promotion of Grievance Committees is being stressed and kits on emergency and night call systems are being supplied the component societies. The April 10th Public Relations Conference was announced.

Council was advised of the resignation of Dr. Ennion Williams as Associate Editor of the Virginia Medical Monthly. After the explanation that this was an office created by Council to assist Dr. Rucker, Dr. Bosher was unanimously elected to succeed Dr. Williams.

Referred to the Public Relations Committee was the authority to establish a policy with regard to an essay contest sponsored by the Association of American Physicians and Surgeons.

In accordance with a previous request of Council, the Publication Committee reported that all component societies had been advised that obituary notices and resolutions concerning the death of physicians should not exceed 175 words and should be sent to the Virginia Medical Monthly within six months following the death.

In recognizing the work of the State Rehabilitation Division, Dr. Horsley thought that more medical advice and more information about the financial status of patients should be obtained before cases are assumed. It was thought that there should be closer cooperation with the State Health Department or a medical supervisor before Rehabilitation volunteers to pay necessary costs. It was moved that this matter be referred to the Society's Rehabilitation Committee for investigation. Dr. Adams suggested writing the Governor. After further discussion, the motion passed with the recommendation that the report of the Rehabilitation Committee be referred back to Council and made available to the proper authorities.

Next considered was a suggestion that help be employed to assist in setting up exhibits at annual meetings. The consensus was that eventual expenses would be excessive, and that the Society would continue only to furnish necessary backboards, signs, ordinary illumination and illuminating boxes.

Concerning the transfer of certain funds from the Department of Welfare to the Department of Health, it was the sentiment of Council that such transfers should be made. President Hundley advised that he had written the Chairman of the Legislative Committee explaining the situation. This action was approved with the further recommendation that the matter be referred to the Legislative Committee for proper action.

In response to Dr. Ozlin's inquiry concerning the American Association of Physicians and Surgeons, Dr. King commented that in his opinion it was a worth-

while organization with chapters in 23 states. It was noted that The Medical Society of Virginia had not adopted the aims and objectives of the A.A.P.S. It was thought that this was a matter of personal choice.

The attitude of the State Department of Health concerning the fluoridation of water was conveyed by Dr. Shanholtz who wished to know if the Society would approve such a position. The Department of Health approves and encourages the fluoridation of public water supplies upon assurance of compliance with the following conditions: 1. Endorsement by local dental and medical groups; 2. approval by local health officials; 3. evidence of local demand as indicated by local ordinances, etc.; 4. application for permission by an individual firm; 5. the development of plans, operating procedures, and methods of supervision to be in conformity with the requirements of the department. It was moved and passed that the plan be approved under the stated standards.

Responding to Dr. Shanholtz's question, it was the consensus of Council that cases of indigent patients utilizing certain health centers as clinics should be treated individually.

There being no further order of business the Council adjourned.

Legislative Committee

The Legislative Committee of The Medical Society of Virginia met on the evening of January 23, 1952, at the Society Headquarters.

The Meeting was called to order by Dr. James D. Hagood, Chairman. The roll was called and a quorum was found to be present.

The following physicians and guests were present: Dr. Hagood, Dr. Caudill, Dr. Henderson, Dr. Wood, Dr. Williams, Dr. Farmer, Dr. Graves, Dr. Masters, Dr. Gatewood, Dr. Cole, Dr. Elliot, Dr. Hundley, Dr. Shields, and Mr. Duval.

The first bill discussed was one which would substitute the words "medical examiner" for the word "coroner".

It was agreed that the bill should be substituted for a similar bill (SB 131) which already had been introduced. A motion to adopt carried.

A proposed bill to place M.D. on auto license plates was next considered, and after some discussion, the motion was made recommending that the bill not be introduced. It was seconded and passed.

Next on the agenda was a proposed bill which would define and regulate the work of dispensing opticians. It was brought out that this bill would merely create another board, that educational requirements were sorely lacking, and that very little would be accomplished.

A motion was made that the Committee go on record as opposing the bill. This was seconded and passed.

Dr. K. D. Graves, Secretary of the State Board of Medical Examiners, explained the proposed amendment

to the Medical Practice Act. It was brought out that the proposed amendment was designed to keep disputes out of court by giving the Board the power of determining whether those foreign schools not graded by A.M.A. were standard or substandard. It was moved that the Committee go on record as favoring the bill. This was seconded and passed. Dr. Graves then requested that something be done to grant the Board the right to appeal the decision of the circuit court. A motion was then made by Dr. Cole to allow the Board two years to work up a bill granting right of appeal. This was seconded and passed.

Mr. Duval then discussed five bills concerning Chiroprodists. The first considered would allow chiroprodists to prescribe dangerous drugs. A motion to oppose the bill was seconded and passed.

The second bill would require two years academic work before practice. This bill was approved.

The third would provide for an examination on anatomy and physiology rather than anatomy and physiology of the feet. It would also allow an examination on surgery rather than minor surgery. After considerable discussion, a motion was made to oppose the bill. It was seconded and passed.

The fourth proposed bill would make it unlawful for anyone to use certain words tending to indicate that a person was a chiroprodist. It was believed that the present statute already covered the situation, and a motion to disapprove the bill passed.

The fifth proposed bill was designed to add an anti-advertisement section to the law, and establish a statutory code of ethics. It would define and regulate advertising. It was brought out that the existing statute Section 54-317 of the Code covers this. A motion to oppose was offered and passed.

A proposed bill to remove tax on medical libraries was next discussed, and it was thought to be somewhat local in nature (Norfolk). A motion to approve the bill was carried.

Dr. Shields of Tucker Sanatorium was granted the privilege of the floor and objected to the present law requiring that the name of each private mental hospital patient, along with the diagnosis, be reported. He requested that the present law be changed by substituting the word "admitted" for the word "committed." A motion to approve passed unanimously.

With no further business on the agenda, the meeting was adjourned.

Report of Delegates to the American Medical Association

The interim session of the House of Delegates of the American Medical Association was held at the Biltmore Hotel, Los Angeles, California, December 4-6, 1951.

In keeping with the custom of recent years, immediately after the invocation, an election of General Practitioner of the year was held and Dr. A. C. Yoder of Goshen, Indiana, was chosen. Dr. Yoder, eighty-four years old, has in addition to his practice taken an active part in his local and state societies and in various civic movements. Upon learning of the award he was flown from his home to Los Angeles and was present to receive the medal on December 6th.

The usual addresses by the Speaker of the House and President were heard. In a forceful address, President Cline, discussing conditions in the country today stressed the opportunities and obligations of the American Medical Association and urged upon individual members the necessity for positive action both as citizens and as doctors. His address published in the Journal of December 22nd should be read in full by every member. Brief addresses were also heard from Dr. J. J. Rourke, president of the American Hospital Association and Mr. Donald Wilson, Commander of the American Legion. These speakers brought congratulations from their respective organizations upon the position taken by the A.M.A. in national affairs and pledged their cooperation and support.

Speaking for the Board of Trustees, the Chairman, Dr. Dwight Murray, announced a contribution of half a million dollars for 1951 by the A.M.A. to the American Medical Education Foundation. This is the second contribution of like amount. In his report on the foundation, President Henderson noted that so far individual doctors have fallen far below his expectation as only 1361 out of a membership of approximately 140,000 have contributed. It was suggested that committees be formed in the states for the purpose of soliciting contributions in support of this movement.

The revision of the Constitution and By-Laws which will come up for final adoption at the next general session was reviewed. Along with numerous minor changes the revision provides for one class of membership in place of members and fellows as in the past. It also provides for two elected representatives from the Student American Medical Association as ex-officio members of the House.

Of considerable interest was the question of 1950 dues. It appears that many members did not understand that payment of dues for 1950 was compulsory for maintaining membership but were later told that dues for 1951 could not be accepted until dues for the previous year were paid. A resolution providing blanket remission of 1950 dues was rejected by the House but a substitute resolution which was adopted gives to the Secretary of the A.M.A. the authority to negotiate with each state organization sepa-

ately as to the method of correcting misunderstandings which exist relative to the collection of 1950 dues only.

The delegation from Tennessee again proposed that the A.M.A. recommend to the Congress of the United States a program for the care of veterans. This program would provide that all veterans with non-service connected illness, with certain exceptions such as mental illness and T.B., be furnished standard medical and hospital insurance policies to be paid for by the government. This large class of government dependents would be cared for by civilian agencies instead of requiring ever increasing veterans facilities. The resolution, after animated discussion both in committee and on the floor of the House, was referred to the Board of Trustees with the recommendation that a special committee be created to study the matter and to report at the next general session in June.

The Council on Medical Service and Hospitals reported that the joint commission for accreditation of Hospitals had been perfected and would convene in Chicago for its first meeting December 15, 1951. This Commission, as previously reported, consists of 18 members, six representing the A.M.A., six the American Hospital Association, three the American College of Surgeons and three the American College of Physicians.

One of the highlights of the session was the public meeting at which the issues before the American people were discussed by Senator Robert A. Taft of Ohio and our own Senior Senator Harry Byrd. Both senators expressed sympathy with the efforts of the A.M.A. in combating socialism and congratulated the Association upon the work accomplished. Senator Byrd made a splendid impression and your delegates felt great pride in the manifest esteem in which he is held by doctors throughout the nation. These addresses were broadcast over the country and the meeting televised locally.

Two resolutions were introduced relative to providing remuneration for the President and President-Elect. These officers in addition to attending stated meetings are called upon for addresses and conferences throughout the country and are compelled to spend a vast amount of time away from their work. Heretofore only their expenses have been allowed. It was recommended that in lieu of salaries, as proposed in one resolution, these officers be given liberal per diem honoraria the amount of which is left to the discretion of the Board of Trustees. This recommendation was adopted by the House.

The House then adjourned to reconvene June 9 for the next regular session in Chicago.

MALCOLM H. HARRIS
HENRY B. MULHOLLAND
J. MORRISON HUTCHESON

**WOMAN'S AUXILIARY
TO THE
MEDICAL SOCIETY OF VIRGINIA**

President MRS. HERMAN W. FARBER, Petersburg
President-Elect—

MRS. THOS. N. HUNNICUTT, JR., Newport News
Recording Sec'y MRS. L. BENJ. SHEPPARD, Richmond
Corresponding Sec'y MRS. CARNEY C. PEARCE, Petersburg
Treasurer MRS. KALFORD W. HOWARD, Portsmouth
Publication Chairman MRS. ROBT. H. DETWILER, Arlington

Do You Observe Doctor's Day?

I would like to bring to your attention the importance of the observance of Doctor's Day in your community. This can be a good Public Relations gesture and an enjoyable affair for the doctors.

This custom came about in 1934 when the Woman's Auxiliary to the Medical Association of Georgia passed a resolution to observe March 30th each year as Doctor's Day, the object being to honor the profession by doing some act of kindness, gift or tribute. In June, 1936, at Atlantic City, the president of the Woman's Auxiliary to the Southern Medical Association, presented the plan to the Auxiliary to the American Medical Association. It was adopted and a recommendation made that each state select a day which would celebrate an outstanding medical achievement of one of her own doctors. This date is arbitrary, but most of the Southern States do observe Doctor's Day. It has been customary in Virginia to celebrate this occasion in the spring, and many of our County Auxiliaries have entered wholeheartedly into it.

The Woman's Auxiliary to The Medical Society of Virginia is very proud of our great doctors and their noble work and wishes to pay a tribute to them who have given, are giving, and will forever give their services to humanity in our state, in our nation and throughout the world. It is my earnest hope that every County Auxiliary will plan to honor the doctors in an appropriate manner this spring.

Below are some suggestions for observance:

1. Publish a tribute to our doctors in your local newspaper.
2. If broadcasting station is available, have your Auxiliary sponsor a Doctor's Day program.
3. Send telegrams, letters, notes or telephone each

doctor in your county, "Best Wishes".

4. Send flowers to doctors' offices, hospitals or clinics.
5. Send buttonniere to each doctor to wear as a reminder of our love, respect and appreciation of him.
6. Place flowers on graves of deceased doctors in your local cemetery.
7. Visit the sick and retired physicians, or remember them with flowers or notes.
8. Plan social functions for your medical society—barbecue, luncheon, dinner, dance or picnic.
9. Plant trees in honor of your medical society.
10. Give the observance publicity in a dignified manner, which will be a credit to the profession.

Have an account of your Doctor's Day Program published on the Auxiliary Page of the Journal. Your ideas may be valuable to other Auxiliaries.

LOUISE J. HAMNER
(Mrs. J. E.)

Northampton-Accomac Auxiliary.

The first meeting of the New Year was held January 15th at the home of Mrs. H. L. Denoon at Nasawadox, with twenty members present.

The new president, Mrs. John Wise Kellam, presided. Minutes of the October meeting were read by Mrs. W. Carey Henderson, and the treasurer's report given by Mrs. John R. Mapp.

Mrs. W. T. Green, Jr., chairman of the Grace Wilkins Holland Memorial, reported that draperies were made and hung in the Memorial Room of the Northampton-Accomac Hospital.

Upon request of Mrs. R. M. Reynolds, State Chairman of Civilian Defense, the president appointed Mrs. W. C. Fritz of Onancock as local chairman. Mrs. Reynolds also requested that all Auxiliary members take courses in Civilian Defense and the Red Cross First Aid. Mrs. Denoon made an appeal for blood donors.

Two members were welcomed to the Auxiliary. A tea and social hour followed the business meeting.

The Auxiliary will be guests of Mrs. J. Fred Edmonds at Accomac for the April meeting.

CATHERINE R. TROWER,
Chairman, Press and Publicity.

Dates To Remember

SEPTEMBER 28—OCTOBER 1

The 1952 Annual Meeting of THE MEDICAL SOCIETY OF VIRGINIA will be held in Richmond on the above dates. Members are advised to make their reservations early by writing any of the hotels listed below.

JEFFERSON*	Headquarters Hotel	.	FRANKLIN & JEFFERSON
JOHN MARSHALL	.	.	5TH & FRANKLIN
KING CARTER	.	.	8TH & BROAD
RALEIGH	.	.	9TH & BANK
RICHMOND	.	.	9TH & GRACE
WILLIAM BYRD	.	.	2501 WEST BROAD

* The House of Delegates of The Medical Society of Virginia has directed that officers and delegates of the Society shall be given the opportunity of securing reservations at the Headquarters Hotel. However, the Jefferson has guaranteed the Society a total of 250 rooms, and reservations for the general membership will be confirmed in the order in which requests are received.

EDITORIAL

Treatment of Urinary Tract Infections

A RECENT article from a prominent United States clinic stated that approximately twenty per cent of the cases coming to autopsy showed evidence of active or healed infection of the urinary tract. In reviewing the history of these cases it was found that in only six per cent was the disease state diagnosed prior to death. These figures suggest the prevalence of a disorder which ordinarily can be easily diagnosed and, with the intelligent use of the new chemotherapeutic agents at our disposal, can be eradicated unless there are complicating mechanical factors.

Two factors need discussion as the cause of the relatively poor handling of urinary tract infections. First, during the past fifteen years new sulfonamides or antibiotic compounds have been developed in such bewildering array that the busy physician cannot know exactly what type of infection will respond to which drug. Commonly, in urinary tract infections, the infecting agents may be resistant to the drug administered or there may be multiple organisms which further complicate the response. The commonest offenders are *B. coli*, streptococcus faecalis, *Ps. aeruginosa*, proteus, aerogenes, staphylococcus, hemolytic streptococcus, and a few rarer organisms. To illustrate the difficulty, an infection produced by *B. coli* will usually respond rapidly to aureomycin, but *Ps. aeruginosa* will be completely resistant to it. Penicillin, which is very commonly used, is totally ineffective against any of these organisms with the exception of the hemolytic streptococcus. In the absence of exact information as to the bacteria present, the best agents will unquestionably be the sulfonamides and streptomycin as, between them, these two are capable of attacking most of the above group.

This brings us to the second problem in the handling of these infections and that is the disinclination of the busy practitioner to use even simple diagnostic tests to arrive at the probable cause. Certainly he hasn't the time nor the set up to make thorough culture studies. As a matter of fact the best laboratory may require two or three days to isolate and label the organisms. It is relatively easy to examine the urinary sediment for pus cells and to stain this either with methylene blue or the gram technique. With these, the morphology and certain staining characteristics give us some identification. If gram negative bacilli are present and the urine is acid, it is probably *B. coli*. If the urine is alkaline, the most likely offender is *Ps. aeruginosa* or proteus. With this relatively simple procedure, a more positive idea can be obtained as to the best agent to employ in treatment.

With this information, the general practitioner should prescribe one gram streptomycin intramuscularly daily and sulfonamide by mouth. Rhoads feels that gantrisin is superior to the sulfonamide mixtures and recommends that it be given in doses of two grams every six hours. These drugs are relatively inexpensive, only mildly toxic, and should be continued for ten days or two weeks. Ordinarily the urine will clear rapidly, but the drug should not be stopped too soon or there will be recurrence of the infection.

If, under this regime, the patient does not recover, further studies of the urinary tract should be made including intravenous or retrograde pyelography since stasis of urinary flow is a potent cause of recurring infection. This stasis may originate as the result of stones in the urinary tract, various mechanical obstructions, prostatic obstruction, large cystoceles, etc. Foci of infection elsewhere in the body may be a factor in continuation of the infection. Naturally, the corrective therapy for the mechanical con-

dition should be initiated. On the other hand, it would be a serious mistake to submit every case of urinary tract infection to thorough urinary tract work up without a trial of simple therapy.

The above program should be adapted to the individual case. It should be intelligently followed and, above all, there should not be frequent switching of drugs if the patient does not respond properly. Those infections associated with an alkaline urine require persistent treatment even in the absence of mechanical difficulty. Again it should be emphasized that there are very few urinary tract infections in which penicillin is of any value. Aureomycin and terramycin may produce severe gastro-intestinal symptoms and should be used with the greatest caution. Finally, a word of warning should be given against the use of more than one chemotherapeutic agent. Recently it has been shown in mice that aureomycin, terramycin and chloromycetin interfere with the action of penicillin on hemolytic streptococcus. For this reason, at the present writing, it is best not to use these drugs in combination and to avoid "shotgun" therapy.

S. W. BUDD, JR.

REFERENCE:

Rhoads et al, J.A.M.A. 148: 165

Dr. William Small (1734-1775)

SAMUEL BUTLER, in *The Way of All Flesh*, has this to say of greatness, "What, then, it may be asked, is the good of being great? The answer is, that you may understand greatness better in others, whether alive or dead, and choose better company from these and enjoy and understand that company when you have chosen it—also, that you may be able to give pleasure to the best people and live in the lives of those who are yet unborn."

If anyone qualifies, under Samuel Butler's description, Dr. William Small, Virginia's mystery man of the 18th century, the teacher of Thomas Jefferson, certainly does. In his autobiography, Jefferson has this to say:

"It was my great good fortune, and what probably fixed the destinies of my life that Dr. Wm. Small of Scotland was then professor of Mathematics, a man profound in most of the useful branches of science, with a happy talent of communication correct and gentlemanly manners, & an enlarged & liberal mind. He, most happily for me, became soon attached to me & made me his daily companion when not engaged in the school; and from his conversation I got my first views of the expansion of science & of the system of things in which we are placed. Fortunately the Philosophical chair became vacant soon after my arrival at college, and he was appointed to fill it per interim: and he was the first who ever gave in that college regular lectures in Ethics, Rhetoric & Belles lettres. He returned to Europe in 1762 (*sic*), having previously filled up the measure of his goodness to me, by procuring for me, from his most intimate friend G. Wythe, a reception as a student of law, under his direction, and introduced me to the acquaintance and familiar table of Governor Fauquier, the ablest man who had ever filled that office. With him, and at his table, Dr. Small & Mr. Wythe, his amici omnium horarum, & myself, formed a parti quarré, & to the habitual conversations on these occasions I owed much instruction."

What little we know of him is due to the researches of Herbert L. Ganter (William

and Mary Quarterly, October 1947). He does not appear in any of the usual biographical dictionaries. What we know can be summed up in a few sentences. He was the youngest of four children of James and Lillias Small, born at Carmyllie, Forfarshire, Scotland, on October 13, 1734, graduated M.A. from Marischal College, Aberdeen, in 1755, and taught mathematics and Natural Philosophy at William and Mary from 1758-1764. He went to England to purchase scientific apparatus and, instead of retiring as apparently he had planned to do, he set up in the practice of medicine in Birmingham, England, where he became the friend of James Watt, John Baskerville, Erasmus Darwin, Thomas Day, Richard Lovell Edgeworth, James Keir, John Roebuck and Josiah Wedgwood. He died "of a fever" on February 25, 1775. Besides receiving a letter, dated May 7, 1775, and some Madeira wine from Thomas Jefferson, that seems to be about all that is known about Dr. William Small.

Why he did not return to Williamsburg is a matter of conjecture. It has been suggested that he was disappointed in not being elected President of the College, upon the death of the Reverend William Yates. His decision, not to return to Virginia, was not reached until he had been in England several months. He was granted an M.D. degree from Marischal College in 1765. His biographer was not impressed with his enthusiasm for medicine. On several occasions Small acted in the capacity of technical consultant to Matthew Boulton, the Birmingham manufacturer, and it might well be, that his interest in the steam engine, played a part in his decision not to come back to Virginia.



Courtesy of Herbert L. Ganter

WILLIAM SMALL
1734-1775

*Reproduced from the William and Mary Quarterly, October, 1947.
Original in Assay Office, Library, Birmingham, England.*

PRESIDENT'S MESSAGE

A Statement of Principles

THE medical profession has been blamed for much that is its fault, but for more that is not. Consequently a statement of principles is in order.

As an individual member of the medical profession, and as an officer and leader in medical organizations, I stand behind and support my profession. At the same time I reserve the right to condemn those members of my profession who do not live up to the ideals and ethics of the profession, and intend to do all in my power to see that they are censured or disciplined.

In addition, I neither feel guilty, nor have an inferiority complex, because my profession is currently under attack. Consequently I will not submit supinely to attack, and will repulse as actively as is within my power those attacks which I deem unjust or unfair.

JOHN T. T. HUNDLEY, M.D., *President*
The Medical Society of Virginia.

30 January 1952.

Floral Eponym

JAMESIA.
JAMES, EDWIN (1797-1861).

Dr. Edwin James, a native of Weybridge, Vt., studied botany, geology, and medicine at Middleburg College from 1816 to 1819. In 1820 he went as botanist, geologist, and surgeon on an expedition to the Mississippi and the Rocky Mountains. He was one of a group of three who were the first to climb Pike's Peak which, by the way, was named by Major Long, "James' Peak". He wrote the official report of the exploration, and also a translation of the New Testament into the Ojibway language. Later he settled in Iowa. He was an ardent abolitionist and ran an underground road for runaway slaves.

Jamesia is the name given to three species of shrubs of the family Saxifragaceae which grow from Montana to New Mexico.

SOCIETY PROCEEDINGS

The Washington County Medical Society

Held a meeting on December 20, at the Martha Washington Inn, Abingdon, which was Ladies' Night and the following doctors with their wives were present: Drs. Catron, Gabriel, Hagy, Hayter, Hillman, Johnston, LeGarde, Shaffer, Suter, Turner, J. A. Wolfe, Wycoff and Moore. A cocktail party at 6:30 was followed by a turkey dinner with all the trimmings. Each lady at dinner received a favor which was wrapped as a Christmas present.

Following the dinner the Society was honored to have as its guest speaker Dr. Albert S. McCown, Epidemiologist, State Health Department, Richmond, who gave a most enjoyable presentation of presidential pathology.

The year 1951 marked the third year that the Washington County Medical Society has been functioning since its reactivation in 1949. General attendance at the meetings for the past year has averaged approximately 55 per cent of total membership. The Society for the past year has been under the presidency of Dr. J. H. Hagy, Abingdon.

The Society met at the Martha Washington Inn on January 17, at which time election of officers for 1952 was held. The following were nominated and elected unanimously: President, Dr. R. L. Hillman, Emory; Vice-President, Dr. R. G. Russell, Abingdon; Secretary-Treasurer, Dr. James M. Suter, Bristol.

Smyth County Medical Society.

At the monthly meeting of this Society on December 17, 1951, the following were elected officers for 1952: President, Dr. R. C. Potter, Marion; vice-president, Dr. D. L. Greever, Chilhowie; and secretary-treasurer, Dr. J. J. Eller, Marion. Delegate and alternate to the Richmond meeting of the State Society were also named.

The Williamsburg-James City County Medical Society

Held a dinner meeting at Buck's College Inn, Williamsburg, on January 21. After the meeting was called to order by the President, Dr. Baxter I. Bell, Dr. Granville L. Jones introduced Dr. Cyril Hardy to the Society. Dr. Hardy became associated with Eastern State Hospital, Williamsburg, in Sep-

tember, 1951. A motion was passed that Dr. Hardy be elected to associate membership, and that Dr. Andrew Davis, Williamsburg, be elected to regular membership.

Dr. E. B. Kilby, Toano, suggested that the society might wish some more permanent location for the Charter of the Williamsburg-James City Medical Society, which now hangs in his office. Dr. Jones offered the society the use of the Eastern State Hospital Medical Library as its permanent headquarters. This offer was accepted.

Other business included the appointment of Dr. Jones and Dr. E. Beamer-Maxwell to represent us at the Public Relations Conference of the Medical Society of Virginia in April.

After the business meeting, interesting and informative movies, supplied by the Ciba Pharmaceutical Company, on Coramine in General Practice, The Use of Heavy Nupercaine in Spinal Anesthesia and Diagnosis and Treatment of Leukorrhea were shown.

FRANCES E. WOOD, M.D., *Secretary*

The Mid-Tidewater Medical Society

Met at the West Point Country Club on January 22nd. Dr. R. B. Bowles of Mathews was installed as president, for the twenty-fifth year of the society.

The program was on the relationship of the local physician to organized medicine from local level, state level and A.M.A. Dr. Bowles spoke of the importance of the local medical society and membership, as well as the local physicians' responsibility to the profession.

Mr. Robert I. Howard, Executive Secretary of The Medical Society of Virginia, talked on the State Society, Public Relations and the present legislative program concerning medical affairs.

Dr. J. Morrison Hutcheson, Delegate to the A.M.A., discussed the local physician with relation to the A.M.A., stressing the importance of membership, and that one must belong to the local medical society to become a member of A.M.A.

The next meeting will be held in Tappahannock in April in conjunction with the Northern Neck Medical Society, when a Clinical Program will be held under the auspices of The Medical Society of Virginia's Committee on Continuation of Medical Education.

M. H. HARRIS, M.D., *Secretary*

The Northampton County Medical Society

Met at the Eastville Inn in Eastville, on January 17. At this time Dr. J. R. Mapp of Nassawadox, Co-Chairman of the Medical Civilian Defense Organization for the counties of Northampton and Accomac, gave a comprehensive discussion of the plans being made for action in the case of disaster, particularly associated with war effort.

This Society went on record as favoring a change in the constitution and by-laws of The Medical Society of Virginia to allow for the admission of negro physicians into the State Society.

Election of officers for the year of 1952 resulted as follows: President, Dr. Charles Robertson, Cape Charles; Vice-President, Dr. W. T. Green, Nassawadox; Secretary-Treasurer, Dr. Thomas Hardman, Cape Charles.

Dr. Edmund Henderson of Nassawadox was elected a member of the Board of Censors for three years, and Dr. W. C. Henderson, also of Nassawadox, was elected chairman of the Committee on Public Relations.

Lynchburg Academy of Medicine.

In January the Academy had a dinner meeting, held at the Virginian Hotel. The speaker was Dr. V. P. Sydenstricker, Professor of Medicine, University of Georgia Medical College, Augusta, Georgia who spoke on "Arthritis And Other Collagen Diseases".

At the Trustees meeting which preceded the general meeting, Dr. E. A. Harper was re-elected secretary for 1952, and Dr. Frank Buck was re-elected assistant secretary.

Roanoke Academy of Medicine.

At the dinner meeting of the Academy on February 4, at Hotel Roanoke, papers were read by two guests from the University of Virginia as follows:

Granulomas With Tissue Eosinophilia by Dr. Edward P. Cawley

and

Urticaria and Angio Neurotic Edema by Dr. Oscar Swineford

Dr. Ira Hunt is president of the Academy and Dr. Philip C. Trout secretary-treasurer.

NEWS

Committees in Charge for Richmond Meeting—The Medical Society of Virginia.

Local Committees on Arrangements for the 1952 Annual Meeting of The Medical Society of Virginia have been appointed. They are:

GENERAL CHAIRMAN—Dr. Kinloch Nelson

HOTELS AND HALLS—Dr. C. L. Outland, *Chairman*

Dr. W. Linwood Ball

Dr. Carl W. Meador

TECHNICAL EXHIBITS—Dr. E. L. Kendig, Jr.

PUBLICITY AND PRESS—Dr. E. E. Haddock

SCIENTIFIC EXHIBITS—Dr. William H. Higgins, Jr.

GOLF —————Dr. William R. Jordan

ENTERTAINMENT ———Dr. Donald S. Daniel

ENTERTAINMENT FOR

LADIES —————Mrs. Randolph H. Hoge

Scientific Exhibits.

Dr. Eugene L. Lowenberg, Chairman of the Committee on Scientific Exhibits, announces that the Committee will now receive applications for scientific exhibits for the meeting of The Medical Society of Virginia to be held in Richmond, September 28th through October 1st. The deadline for applications

will be June 15th. The executive committee will then choose those to be shown and notify the exhibitors by July 1st. This will be necessary because of limited space at disposal for scientific exhibits. Applications should be requested from Dr. Hunter B. Frischkorn, Jr., 1000 West Franklin Street, Richmond 20, Virginia.

News from State Health Department.

Dr. Fred C. Heath resigned as Health Officer of Fairfax County at the close of business February 11, 1952. He will be replaced by Dr. Harold Kennedy who is being transferred from the Henry-Martinsville Health District.

The Virginia Society of Anesthesiologists

Will hold its annual business meeting on March 22nd instead of March 1st as originally scheduled. This will be in Lynchburg and an address will be given on "The Economics of Anesthesiology" by Dr. Lewis Wright.

Present officers of this Society are Dr. Thomas Walker of Richmond president, and Dr. Harold F. Chase of Charlottesville secretary.

Dr. Lewis W. Holladay,

A former Richmonder, recently chief of urology service at the Newton D. Baker Veterans' Hospital at Martinsburg, W. Va., has been named chief of the paraplegic service at McGuire Veterans' Hospital, Richmond, and entered upon his duties here on February 17.

The Southeastern Allergy Association

Will hold its seventh Annual Meeting at the Bon Air Hotel, Augusta, Georgia, on March 21 and 22. Dr. L. C. Todd of Charlotte, North Carolina is president, and Dr. Katherine B. MacInnis of Columbia, South Carolina, is secretary-treasurer.

Red Cross Roll Call.

Your assistance is needed in presenting the work and the needs of Red Cross. This year the blood program for the armed forces, an expanding volume of services to military personnel and their dependents, the heavy demands for assistance to victims of natural disasters and the continued training civil defense authorities have requested Red Cross to provide our citizens, have all placed extra burdens on Red Cross finances. Success of the campaign is vital to the continued effectiveness of Red Cross in these diverse activities.

You are especially asked to answer the Red Cross Roll Call February 26-March 11.

The American College of Chest Physicians

Will hold its 18th annual meeting at the Congress Hotel, Chicago, June 5 through 8. A scientific program covering all recent developments in the treatment of heart and lung disease is being arranged.

The Board of Examiners of the College announces that the next oral and written examinations for Fellowship will be held in Chicago on June 5. Candidates for Fellowship in the College who wish to take the examinations should contact the Executive Secretary, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

Dr. Dean B. Cole of Richmond is Regent of the College for the district and Dr. C. Lydon Harrell of Norfolk serves as Governor of the College for Virginia. Officers of the Virginia Chapter of the College are Dr. Charles P. Cake, Arlington, President; Dr. Bryan Grinnan, Norfolk, Vice-President; and Dr. M. F. Brock, Norfolk, Secretary-Treasurer.

The Easter Seal Appeal.

Between March 13 and April 13, twenty-nine million American homes will receive through the mails a gaily colored sheet of Easter Seals. Accompanying these will be a letter asking support for one of our nation's voluntary health and welfare organizations. Since its founding in 1921, hundreds of physicians have been and are now actively working with these National Society affiliates as advisors, counselors and consultants, and the Society's work has the approval of the American Medical Association.

Today, more than ever, this appeal needs the support of the medical profession. Funds are needed to support a \$10 million program. It cannot fall short because it will mean curtailment of existing services.

Conferences for Army Medical Service Reserve Officers.

The Second Army Surgeon, Brigadier General Alvin L. Gorby, and a group of specialists will conduct a series of orientation conferences for Army Medical Service Reserve Officers in the Second Army area during March, 1952. The following is the itinerary:

Cleveland, Ohio	15 March 1952
Cincinnati, Ohio	16 March 1952
Philadelphia, Penn.	22 March 1952
Richmond, Virginia	23 March 1952
Pittsburgh, Penn.	29 March 1952
Baltimore, Maryland	30 March 1952

Following previous policy the Second Army is taking the orientation conferences to the field so as not to infringe on the professional time of medical reserve officers by calling them to Army Headquarters. A further convenience is that they are being held on weekends with a starting time of 1:30 P.M.

Reserve medical officers should contact their ORC Unit Instructors for complete details.

The Piedmont Proctologic Society

Will hold its Spring meeting in Charlotte, North Carolina on March 29, under the presidency of Dr. J. Milton Stockman of Knoxville, Tenn. Dr. B. Richard Jackson of Raleigh, N. C., is secretary. This group is composed of proctologists in Virginia, North and South Carolina, Georgia and Tennessee.

Richmond Eye, Ear, Nose and Throat Society.

Dr. Mason Smith was recently elected president of

this Society and Dr. C. N. Romaine secretary-treasurer. The Society meets on the first Tuesday in January, March, May and October and the place of meeting is the Commonwealth Club in this city.

The Annual Spring Clinic

Of the Norfolk County Medical Society will be held in Norfolk on Wednesday, April 2nd. The program will consist of a number of interesting papers presented by Norfolk physicians. All physicians are cordially invited to attend.

Continuation Course for Physicians.

On April 3, 4, and 5, the Frank E. Bunts Institute and the Cleveland Clinic Foundation will present a continuation course for physicians on "The Diagnosis and Treatment of Malignant Disease." Dr. Freddy Homburger, Research Professor of Medicine, Tufts College Medical School, Boston, will give the evening lecture on April 4. The other guest speakers will be Dr. Allan C. Barnes, Professor of Obstetrics and Gynecology and Chairman of the Department, Ohio State University, College of Medicine; Dr. Brown M. Dobyns, Associate Professor of Surgery, Western Reserve University School of Medicine, Cleveland; and Dr. Thomas D. Kinney, Director of Laboratories, Cleveland City Hospital and Professor of Pathology, Western Reserve University School of Medicine, Cleveland.

Inquiries regarding the complete program and registration may be addressed to the Frank E. Bunts Educational Institute, 2020 East Ninety-third Street, Cleveland 6, Ohio.

Dr. Charles M. Caravati,

Richmond, was the guest speaker on January 16, before the annual joint meeting of the Section on Gastroenterology with the Medical Society of the District of Columbia. Following dinner, Dr. Caravati spoke on "Jaundice, Its Clinical Interpretation".

Roentgen Ray Meeting.

The Spring meeting of the Virginia Radiological Society will be held at the Cavalier Hotel, Virginia Beach, on Saturday and Sunday, April 19th and 20th. All members of The Medical Society of Virginia and physicians in the Armed Forces are cordially invited.

Detailed information may be received by writing the secretary, Dr. P. B. Parsons, Norfolk General Hospital, Norfolk.

The Fifth American Congress on Obstetrics and Gynecology

Will be held at the Netherland Plaza Hotel in Cincinnati, from March 31 to April 4. The program is diversified so as to be of interest to physicians practicing obstetrics and gynecology both in private practice and in public health work. There will be much of interest to maternity nurses who are engaged in either hospital or public health programs. The special section on sociological factors should appeal to both physicians and nurses. The Congress fulfills a real need for continuation education in this important field of medicine.

The Virginia State Chairman, Dr. Waverly R. Payne, urges that hotel reservations be made as early as possible.

The Memorial and Crippled Children's Hospital

Of Roanoke will hold its third annual post-graduate day March 27th, at Hotel Roanoke, starting at 2:00 P.M. Papers will be presented by doctors from the University of North Carolina and the University of Virginia as follows:

Renal Complications of Pregnancy—Dr. C. H. Burnett, Chapel Hill.

Psychosomatic Aspects of Thyrotoxicosis—Dr. George Ham, Chapel Hill.

Modern Concepts in the Treatment of Liver Disease—Dr. H. B. Mulholland, Charlottesville.

After a short intermission, there will be a panel discussion on Diabetes by these doctors, with Dr. Alexander Marble of Joslin Clinic, Boston, as moderator. A social hour and banquet will follow, after which Dr. Marble will speak on Present Day Treatment of Diabetes.

Virginia Academy of General Practice.

The Second Annual Scientific Assembly of the Virginia Academy of General Practice will be held at the Hotel Roanoke, Roanoke, Virginia, May 8-9, 1952.

An excellent program has been arranged, with outstanding speakers in the fields of roentgenology, psychiatry, diabetes, hormone therapy, geriatrics, hyperthyroidism, emergency room surgery, fractures, dental problems in pediatrics, prostatism, diuretics and antibiotics. Postgraduate education and the responsibilities of the physician in the community will also be discussed and a clinical pathological

conference will complete an interestingly varied program.

A cocktail hour and banquet, followed by a dance on Friday, May 9, will conclude the two-day Assembly, which gives promise of even exceeding, in interest and attendance, last year's gathering, which has been acclaimed one of the outstanding events of that year of the medical profession.

All members of The Medical Society of Virginia and colleagues in neighboring States are cordially invited to attend.

Make your hotel reservations Now directly with the Hotel Roanoke, who will place you at other conveniently located hotels if their facilities are already engaged.

Wanted—

General practice office equipment, instruments and furniture. Address "Office Equipment", care this journal, 1105 West Franklin Street, Richmond 20, Va. (*Adv.*)

Wanted—

Associate physician (general practice); drawing account plus commission; rapid advancement; twenty miles from Richmond. Write P.O. Box 257, Providence Forge, Va. Phone 541. (*Adv.*)

For Rent—

Fully equipped office, with good supply of drugs, in a splendid location for a doctor. Situated in Grayson County near Fries, Galax, Independence and Ivanhoe, from which towns one may draw a large practice. The building is a new duplex-office and living quarters. Formerly owned by a doctor recently deceased. Address "Office" care this journal, 1105 West Franklin Street, Richmond 20, Va. (*Adv.*)

Wanted—

One Resident Physician, \$225.00 per month, Two Rotating Interns, \$150.00 per month, 117 bed general hospital, newly opened. Apply in writing, Administrator, Louise Obici Memorial Hospital, Suffolk, Virginia. Appointments will be available July 1, 1952. (*Adv.*)

Partner Wanted.

Busy physician in Richmond, Virginia, wishing to limit his work, desires a partner. Full particulars on request. Address "79" care Virginia Medical Monthly, 1105 West Franklin Street, Richmond 20. (*Adv.*)

OBITUARIES

Dr. Joseph L. Wright,

Prominent surgeon of Harrisonburg, died January 26 in a hospital there. He was graduated from the University of Virginia in 1914 and for a time served as an instructor in surgery and a resident surgeon at the University Hospital. He had been a member of The Medical Society of Virginia for many years. His wife survives him.

Dr. John M. G. Ryland,

Well known homeopathic physician of Richmond, died February 2 at the age of sixty-two. He graduated from Hahnemann Medical College and Hospital of Chicago in 1919, and had practiced in Richmond for the past thirty-five years. He was a member of The Medical Society of Virginia. He is survived by his wife and two daughters.

Dr. Carl W. White,

A neuro-psychiatrist of Danville, died at a local hospital on February 3 at the age of 53. He was a graduate of Jefferson Medical College in 1923. After locating in Virginia, he was on the staff of the State Colony at Lynchburg before locating in Danville where he had practiced for the past six years. He was a member of The Medical Society of Virginia. Two children and a brother survive him.

Dr. William E. Tomlinson, Jr.,

Richmond, died January 27, apparently from suffocation from carbon monoxide gas as a result of fire in the living room of his house, though he also suffered from a heart ailment. He was forty-four years of age and a graduate of the Medical College of Virginia in 1929. He saw service in World War II as a lieutenant-commander in the Navy and had been associated with the duPont Company in Richmond for the past fifteen years. Besides his wife and a child, he is also survived by his parents.

Major-General Edgar Erskine Hume,

Former chief surgeon of the Far East Command, died at Walter Reed Hospital in Washington, January 24. He was 62 years of age and a graduate in medicine of Johns Hopkins University in 1913. He was one of the leading medical men in this country and is well remembered in this State as former librarian of the Army Medical Library in Washington.

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GUEST EDITORIAL

Tetanus Is A Preventable Disease

AT A RECENT conference on traumatic injury at the University of Virginia considerable interest was shown in the prevention of tetanus. During the course of a panel discussion it became evident that uncertainty existed in regard to some aspects of the problem. Tetanus has caused 125 deaths in Virginia during the past ten years. The tragedy of this disease lies not so much in its relative frequency as a cause of death but in the fact that these deaths result from a disease which can be prevented. This topic is editorialized not because some new form of prophylaxis has come to light but rather to urge more universal application of active immunization with tetanus toxoid, a well known, simple and readily available preventive measure.

The spores of *Clostridium tetani* are widely distributed in both rural and urban environments. The organisms are saprophytes and require tissue injury, either mechanical, thermal, or chemical, in order to survive, multiply and produce toxin. The clinical manifestations of the disease are the result of the absorption and action of the toxin which has been produced in the local wound.

The prevention of tetanus is based on adequate and competent surgical care. This is the *sine qua non* of wound therapy, to be supplemented, under conditions to be pointed out later, by the use of either specific antitoxin (passive immunization) or toxoid (active immunization). The value of chemotherapeutic and antibiotic agents in preventing tetanus in man is not known.

The prophylactic value of antitoxin was demonstrated in World War I. The passive immunity provided is prompt but transitory. Its use carries the risk of hypersensitivity reactions to foreign protein, the incidence, inconvenience and even danger of which should not be underestimated. Whenever the administration of antitoxin is contemplated precautions to prevent or to minimize allergic phenomena must be exercised.

Although the efficacy of prophylactic antitoxin has been proven, examples of its failure to prevent tetanus have been reported. Moreover, there is some debate relative to the effective dosage of antitoxin. There are some who challenge the time-honored 1500-unit prophylactic dose and who contend that amounts as high as 20 thousand units ought to be used. It has been shown that the 1500-unit dose gives passive immunity lasting from one to three weeks while larger doses offer protection for considerably longer periods.

Whether or not to give antitoxin to the individual not previously immunized by toxoid (see below) is one of the most perplexing questions confronting the surgeon called upon to treat the patient with a fresh wound. We are aware that many wounds, even severe ones, go untreated and tetanus does not occur. We also know that tetanus may be initiated in wounds of trivial nature. There are no dependable clinical or laboratory guides to aid in the selection of individuals for prophylaxis. If antitoxin is administered to every patient with an accidental wound many will be subjected needlessly to

the risks of allergic reactions. If this precaution is omitted routinely, and no other form of prophylaxis is substituted for it, the patient faces the possibility of what may be a fatal disease. After careful consideration of the relative risks it would seem that antitoxin is the lesser of the two evils. Therefore, it is recommended that all patients not previously actively immunized by toxoid whose wounds are sufficiently serious to require any form of surgical care be protected against tetanus by the use of 1500-units of antitoxin. There may be, of course, occasional instances in which exceptions to this practice, either the omission or the increase of dosage, are indicated.

The uncertainty and debate in regard to the administration of antitoxin need not exist for there is available a safe and more dependable method of prophylaxis which, if universally employed, will eliminate this disease. Experience with tetanus toxoid in World War II is well documented and has established its indisputable value in the prophylaxis of tetanus.

Tetanus toxoid produces active immunization without risk of serious allergic phenomena. An individual who has been immunized properly is prepared so that at a subsequent time another dose will raise very promptly the titre of antitoxin in his serum to a level capable of protecting him from tetanus. An adequate method of immunization consists of two intramuscular injections of 0.5 cc of alum precipitated toxoid at intervals of four to eight weeks followed by another injection of 0.5 cc one year later. The alum precipitated toxoid is considered more effective for active immunization but for the stimulating dose the plain (fluid) toxoid (0.5 to 1 cc) is preferred since the response of the immunized patient to it is more rapid than it is with the alum precipitated toxoid.

The duration of the ability to respond to the stimulating injection is not known. A number of reports place it at a minimum of three to five years and one observer has found that a stimulating dose of toxoid administered as long as nine years after the basic immunization is capable of producing a titre of antitoxin sufficient for protection. It is possible that this ability to respond to the stimulating dose exists throughout life but one cannot rely on this as a probability. Until further information is obtained, it is safer to think and to act in terms of the three to five year effective period.

A patient previously immunized with toxoid who incurs a fresh wound, or in whom an old wound is surgically revised, should receive a stimulating dose of tetanus toxoid. As has been pointed out this affords safe and effective prophylaxis against tetanus and there exists no debate concerning the propriety of using it.

Unfortunately a large segment of our population, including many exposed to frequent injury, has not been actively immunized against tetanus. It is the duty of the medical profession, individually and collectively, to correct this deficiency. This can be accomplished if every child is actively immunized early in life and if the immunity is maintained by subsequent stimulating injections. Until universal childhood immunization is accomplished, efforts must be directed also at the adult population, especially those in hazardous occupations. This is a formidable but worth-while task and it is an aspect of preventive medicine well adapted to the efforts of the individual practicing physician.

WILLIAM R. SANDUSKY, M.D.
Charlottesville, Virginia

Dr. Sandusky is Associate Professor of Surgery at the University of Virginia.

REHABILITATION OF THE TUBERCULOUS PATIENT*

A. RAY DAWSON, M.D.,Chief, Physical Medicine and Rehabilitation Service, McGuire Veterans Administration Hospital, and
Assistant Professor of Clinical Physical Medicine, Medical College of Virginia,
Richmond, Virginia.

and

B. B. BAGBY, JR., M.D.,

Chief, Physical Medicine and Rehabilitation Service, Veterans Administration Hospital,
Oteen, North Carolina

Although the value of the use of physical agents in the treatment of disease and injury has been known as far back as early history, it is only during the last decade that the young specialty, Physical Medicine and Rehabilitation, has become widely accepted. The phenomenal growth of this specialty during the past ten years has resulted from the increasing need for scientific treatment of disabilities. Sulfa drugs, antibiotics, advances in anesthesia and surgery are saving lives but are producing an aging population and a population in which the percentage of disabilities is rising. In addition, as our cost of living increases and the interest rates go downward, medical rehabilitation of the individual becomes imperative for personal economic survival. Man must work longer in order to prepare for his extended years.

A number of you have already come in contact with a recent law of Congress, an extension of the Social Security Act, the so-called aid to the total and permanently disabled. If you have not, rest assured that the majority of you will be called upon by the Department of Public Welfare for information about your indigent disabled patients, and the question which you will face is a determination of the medical rehabilitation feasibilities for each of these patients. In other words, is your patient suffering from a disability which will, in reasonable likelihood, respond to medical rehabilitation treatment? The present trend in our social laws make it imperative that we as physicians not only treat disease but become aware of the limiting effects of disabilities and the possibility of restoration of function.

The concept of medical rehabilitation in the com-

plete treatment of tuberculosis is not new, nor is the criteria on which to base the efficiency of this treatment new. As early as 1908, Dr. A. M. Forester originated the Eudowood Farm Colony, in Maryland, where patients were transferred after sanatorium treatment. In discussing the activity of Eudowood Farms, the following statement is of major significance: "The infrequency of relapse soon convinced them that the plan was being carried out carefully."¹ We realize that to mention a reactivation rate in discussing tuberculosis is to invite argumentative discussion. However, it is our opinion that the reactivation rate in tuberculosis without rehabilitation approaches the least figure of approximately thirty per cent.^{1,2,3,4,5} A control, but short duration study by one of us, BBB, showed a reactivation rate of only 16.5 per cent for those who availed themselves of maximum rehabilitation treatment, thereby receiving a classification of "arrest" upon discharge from the rehabilitation center.² In a pamphlet of the National Tuberculosis Association, titled, "Clinical Evaluation of the Rehabilitation of the Tuberculous," which is based upon the experience of Altro Workshop from 1915 to 1939, we find this statement, "These data demonstrate that workers who achieve full work tolerance at the workshop and are graduated into general industry have a favorable record of health during their post Altro employment."³ Dr. Keiffer, in his recent book, "Present Concepts of Rehabilitation in Tuberculosis", devotes a chapter to the statistical study of rehabilitation. These studies indicate that medical rehabilitation, as a part of the complete treatment of tuberculosis, lessens reactivation and that the investment of time and money in this form of treatment returns handsome dividends.¹ Although medical rehabilitation begins during the treatment of the active phase of tuberculosis, for the purpose of this paper, we wish to limit our discussion to that phase of rehabil-

Reviewed in the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are the results of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

*Read before the annual meeting of The Medical Society of Virginia at Virginia Beach, October 7-10, 1951.

itation which is normally carried out in a specialized rehabilitation center, and to bring to your attention the excellent facilities for the rehabilitation of the tuberculous patient afforded by our own state of Virginia.

Criteria for the admission to the various Tuberculosis Rehabilitation Centers in the United States follow a general pattern. Practically all these centers require that the patient be free from active disease. Criteria for the admission to the Veterans Administration Tuberculosis Rehabilitation Center at Swannanoa, N.C., (a part of the Veterans Administration Hospital, Oteen, N.C.) are that the patient must have reached the so-called "quiescent" classification as given in the diagnostic standards of the National Tuberculosis Association. They must have no evidence of cavitation and their sputum must be negative for acid fast bacillus for at least four to six months prior to admission.² In addition to the above, the Virginia State Rehabilitation Center, the Woodrow Wilson Rehabilitation Center, Fishersville, Virginia, requires that the patient must have at least a four hour work tolerance. You will note that these criteria do not preclude the patient receiving pneumothorax or pneumoperitoneum while in the center. In fact, at both the Veterans Administration Center at Swannanoa, N.C., and the Woodrow Wilson Center at Fishersville, Virginia, patients are followed by chest specialists and are given air injections according to their needs.

The concept of activities of the Tuberculosis Rehabilitation Center is based on the premises that the long accepted method of "walking exercises" is not an entirely adequate means of determining work tolerance, since such exercise alone makes it difficult to determine objectively a particular patient's capacity to work or study in a specific field following discharge. On the surface, it would appear that the activities of a Tuberculosis Rehabilitation Center deal primarily with the hardening process and the determination of vocational aptitudes and abilities. However, there is under the surface and running throughout the center's stay, a purposeful teaching procedure which has as its objective teaching the patient the art of living following a severe debilitating disease. Patients are taught the signs of fatigue, that rest must become a part of their daily life, and that emotional stresses are of major importance. If some of our patients are to remain well, they must

learn a new way of life. They must change some of their basic personality patterns. Among the clues which we look for in determining personality patterns are the lack of self-discipline which militates against the patient's leading a life of moderation and regular habits. Lack of ambitions and failure to select or even desire a goal which frequently leads to emotional and financial insecurity and consequently immoderation, and on the credible, but none the less, the risky side are over ambition and abundance of inner drive which often produces too intense an effort towards resuming normal work and living. The latter traits are often found in the so-called "good patient", and for them the toning down of ambition is as important as the creation of goals for others.² In summary, the techniques of rehabilitating the tuberculous patient fall under the heading of controlled environment and teaching the patient to live again. Although controlled environment in itself hastens complete recovery, it is used in a rehabilitation center as much for teaching the patient how to live again as for the purpose of hastening recovery. Patients are required to take prescribed periods of rest each day. Their respiration and pulse are taken before and after a work experience. Should the respiration and pulse show a sharp rise, it is indicative both to the therapist and to the patient that he is exceeding fatigue limits. The ex-tuberculous patients must learn that a steady flow of work within fatigue limits assists in maintaining the healed process but that peak loads of work are dangerous. Daily temperatures are taken and recorded. Weekly weights are taken and recorded. Our patients soon learn that fatigue is to be avoided and rest is imperative. Vocationally, patients are placed in a class or work experience where their aptitudes and abilities are carefully tested and evaluated. Experience has taught us that by gradually increasing the patient's work tolerance over a period of four to six months, he will have hardened to such an extent that he can actively engage in from four to six hours of normal employment or classes per day without fatigue. He has learned how to evaluate himself, and when, and under what conditions he can increase his hours of activity.

As we stated earlier in this paper, one of our objectives was to acquaint you with the excellent facilities of vocational rehabilitation afforded by the Woodrow Wilson Rehabilitation Center. There

are certain differences between the Veterans Administration Rehabilitation Center at Swannanoa, N.C., and the Woodrow Wilson Center at Fishersville, Virginia, which should be pointed out here. Patients are transferred to Swannanoa, N.C., as soon as they meet the requirements mentioned before; therefore, they are transferred directly from one of the other Veterans Administration hospitals before they have developed more than one or two hours of work tolerance. This means that the patient is under direct medical supervision from the time of admission for acute disease to the time of discharge following the rehabilitation treatment and training. It is after this that the ex-patient pursues training in a school or work situation. As you can see from the above, the Veterans Administration Rehabilitation Center is primarily a hospital with certain training facilities added which have as their objective hardening the patient, teaching him a new way of life and determining his vocational aptitudes and interests. In contra distinction to this, the Woodrow Wilson Rehabilitation Center at Fishersville, Virginia, is primarily a vocational school with certain medical facilities added. According to law, an applicant to Woodrow Wilson must be capable of four hours work tolerance in addition to the other criteria. Because of the pressure for bed utilization in the Tuberculous Sanatoria in the State of Virginia, this means that patients are required to remain at home for a varying length of time between being discharged from one of our sanatoria and meeting the requirements for admission to Woodrow Wilson. It is our opinion, based upon a wide experience in dealing with these matters, that this is an extremely critical period, a period in which the patients so frequently react with over caution and thereby lose their drive for self-sufficiency, or react with complete abandonment of precaution, only to be followed by reactivation and further hospitalization. We could cite many cases coming under both these classifications. When, and if, arrangements could be made for this interim care between hospital discharge and entry into Woodrow Wilson, we are of the opinion that such care would be a profitable investment.

The Woodrow Wilson Rehabilitation Center is for the purpose of vocationally rehabilitating any white citizen of the state suffering from any type of disability needing vocational training to become employable. There are other facilities for colored. If

medical treatment is needed, it can be purchased by the State Rehabilitation Service from private sources or will be furnished while undergoing training at the center. The medical services there are under the able direction of Dr. Herbert W. Park, a specialist in Physical Medicine and Rehabilitation.

From November 1, 1947, to September 25, 1951, there have been 67 ex-tuberculous cases enrolled at the Woodrow Wilson Center with 23 of the number at present engaged in such courses as clerk-typist, stenographic, small business management, watch repair, shoe repair, radio, cosmetology, barbering and electrical appliance repair. During the fiscal year 1951, the State Vocational Rehabilitation Service closed out 114 ex-tuberculous cases as rehabilitated.

Although the largest number of cases presented to the State Vocational Rehabilitation Service coming from a single unit are referred by the State Welfare Department, it is to be remembered that cases can be referred by any interested parties. We recommend that when you, as active practicing physicians, see a case presenting a disability which you feel could be made employable by vocational training, with or without medical attention, that you inform the person of the facilities available through the State Vocational Rehabilitation Service. This service maintains ten branch offices in the state. They are located in the following cities: Richmond, Alexandria, Charlottesville, Lynchburg, Marion, Norfolk, Roanoke, St. Paul, South Boston and Winchester. We asked Mr. Corbett Reedy, State Supervisor of Vocational Rehabilitation, to give us each step in the handling of a client. The following is quoted from a letter which we received from him. He selected as a representative case a client who had suffered from tuberculosis and resided at Virginia Beach.

Step 1. Client X was referred to the Norfolk office of the State Vocational Rehabilitation (Mr. Ed Justice, Supervisor) by the Welfare Department of Virginia Beach. This case could have been referred by any private practitioner or other interested party.

Step 2. Client visited at home by field supervisor who finds man at home unemployable, on four hours rest per day schedule following recent discharge from tuberculosis hospital. Preliminary survey reveals man, head of the family, who cannot return to former job as carpenter. Family dependent upon Public Assistance grant.

Step 3. Medical information secured. General

medical information provided by family physician. Report secured from tuberculosis hospital. Up-to-date specialists examination secured and record brought up to date.

Step 4. Counsellor interviews client in detail, including testing, and obtains information concerning education, work history, family status, economic resources, vocational interest, and the like. Client and supervisor agree on a tentative work objective—that of furniture repair and upholstery.

Step 5. Counsellor communicates with chest specialist to get advice and consent concerning work objective and training plans.

Step 6. Supervisor writes Rehabilitation plan, recommending twelve months training at Woodrow Wilson Rehabilitation Center, four hours daily at first with hours increased as physician permits. Patient to receive pneumothorax refills and monthly checkup by chest specialist.

Step 7. Training authorized and client admitted to the Woodrow Wilson Center. After brief program of orientation, client enters training. Full medical reports accompany client becoming a part of the medical records used by the center physician who gives general health supervision to all students. Hours of rest rigidly enforced. Counselling interviews at frequent periods.

Step 8. Completion of training. Client is pronounced arrested. Can work eight hours a day. Returns home and local rehabilitation supervisor assists him in finding job consistent with training. Often employment has been pre-arranged.

Step 9. Placement follow-up. Case closed as rehabilitated after three months successful demonstration of work capacity.

In summarizing, we would like to emphasize that tuberculosis, like other prolonged disease processes, leaves our patient with certain limiting disabilities that respond favorably to Physical Medicine and Rehabilitation, that time and money invested in rehabilitation returns good dividends and that the citizens of the Commonwealth can be justly proud of the rehabilitation which is afforded by the Woodrow Wilson Rehabilitation Center.

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DISCUSSION

DR. WILLIAM F. WAGNER, Director Division of Tuberculosis Control, Virginia State Department of Health, Richmond: In my opinion, Drs. Dawson's and Bagby's excellent paper points up among other things the important role that correct patient management plays during a very critical period of tuberculosis treatment—between the time the patient is no longer in need of sanatorium care as such, and the point where his disease has become sufficiently healed to permit him to undertake formal definitive vocational training upon a four to eight hour per diem basis, or to return to his former job, or to embark upon an equally agreeable occupation for which he is already professionally qualified.

For years, many *needless* "relapses" have been reported and continue to occur because patients who have earned a right, in a sanatorium, to anticipate, *following* discharge, regular increments of physical and other exercise involving expenditure of energy, are *not* as carefully supervised as they should be by a physician during this period. Supervision is necessary to make sure that at no time do patients exceed basic residual treatment requirements consisting primarily of concomitantly reduced, but still vitally important, periods of systemic *rest*. During much of this period, *much* more rest is needed, and closer medical supervision, than is ordinarily found at full-blown rehabilitation centers, such as Woodrow Wilson. For this reason, sanatorium discharges, in need of vocational training, are not suitable for direct transfer.

Having one's pursuits during leisure hours systematically controlled and/or purposefully directed does not, of course, in and of itself, spell "rehabilitation". Only when the supervised pursuit, in the sanatorium or following discharge, is *specifically* directed at preparing a man to earn his living in a *definite occupation* more nearly in line with an anticipated permanent partial disability can the term "rehabilitation", in the *restricted*, and *most widely used*, sense of "vocational readjustment" be said to apply.

The State of Virginia does not now provide facilities for care of patients when they reach this important interim treatment period between eligibility for discharge and eligibility for a full-fledged rehabilitation program, or job. As a consequence, when no longer in need of sanatorium care, patients customarily are discharged to their homes, the same as are patients discharged to their homes from the tuberculosis wing of the McGuire Hospital

when they become eligible for transfer to Swannanoa, *but decline to accept placement*. Actual date of discharge naturally varies considerably with the character of home conditions as well as with the condition of the patient.

By relieving sanatoria of those no longer in need of sanatorium care, badly needed beds are made available for the reception of new applicants. It is the feeling of the State Health Department that priority of consideration must continue to be given in our sanatoria to patients in need of *sanatorium treatment* as opposed to "interim care". Apparently this conviction is shared by the Veterans Administration with respect to its own tuberculosis wards at McGuire, Oteen, etc.

This does *not* mean that the State Health Department does not recognize the *existing* need for services of the type now provided at Swannanoa, nor that it denies that that need undoubtedly will continue to prevail when our presently envisaged sanatorium expansion program has been completed. By that time, however, we *hope, first*

things having been taken care of *first*, that money will have been appropriated for the construction, equipment and staffing of a separate interim treatment unit patterned closely after the one you have heard described this morning.

In the meantime, every effort will continue to be made to encourage and to help secure closer medical supervision *in local communities* for sanatorium discharges regardless as to whether they be candidates for later rehabilitation, or whether they expect eventually to return to previous employment. This is a normal phase of the State's over-all Tuberculosis Control Program.

Nor does prior concern with sanatorium treatment for those in need, mean that in-patient guidance and prevocational instruction will not be incorporated into plans and programs of existing State Sanatoria. They *will* be. Blue Ridge is now remodeling one of its buildings for this purpose. It is expected that Piedmont and Catawba will shortly follow suit.

Floral Eponym

GRINDELIA

GRINDEL, DAVID HIERONYMUS, PH.D., M.D., 1777-1836.

Dr. Grindel was born on September 29, 1777 near Riga, the son of a merchant. He was educated at Riga, Jena, and Dorpat. He held various teaching positions in chemistry, botany and pharmacy in these universities. Finally, he held the position of professor of medicine at Riga where he was also district physician. He died January 8, 1836.

Grindelia is a genus of some 30 resinous herbs from the western United States. It is sometimes called gum plant or tar weed. The leaves and tops of *G. camporum*, *G. humilis*, or *G. squarrosa* contain an amorphous resin that is used in cough medicine.

A NEW TECHNIQUE FOR RADIATION IN CARCINOMA OF THE CERVIX*

GEORGE COOPER, JR., M.D.,

and

JESSE N. CLORE, M.D.,

University, Virginia.

To gynecologist and radiologist both, the treatment of carcinoma of the cervix is often a frustrating experience. The tumor arises in an organ readily accessible to direct inspection and to biopsy, and therefore early cases are being seen with ever greater frequency. It is a growth of moderate sensitivity and the primary cervical lesion can be cured in a high percentage of cases. It is not our intention to debate whether the treatment of choice is radical surgery or radiation, nor whether radiation should be delivered to the cervix by radium or intravaginal roentgen therapy. For our purpose, it is sufficient to recall that in non-operated cases, the primary growth occasionally is not sterilized because of unusually high radio-resistance. In the vast majority of instances, the cervix is sterilized but the tumor survives in points beyond the cervix which have not been reached by an adequate dose of radiation. Experience has shown that 6000 r tumor dose delivered in six weeks constitutes a control dosage for a high percentage of squamous cell carcinomas. The comparative ease with which a control dosage can be delivered to the cervix with successful clinical result makes it all the more frustrating to lose patient after patient because a control dosage has not been delivered to the pelvic nodes.

Gilbert H. Fletcher, of the M. D. Anderson Hospital for Cancer Research at Houston, Texas, in June, 1949, described a technique for pelvic irradiation which, in our opinion, makes obsolete the common practice of employing four or six 10 x 10 or 10 x 15 cm. portals (two anterior, two posterior, and perhaps two lateral) for radiation of pelvic cancer.

We have been using his technique for a year. Neither we nor he can yet offer any statistical analysis of results, but the advantages of his approach seem to us so obvious that we wish to commend it to you.

*From the Department of Roentgenology, University of Virginia School of Medicine and Hospital, Charlottesville, Va.

Read at the annual meeting of The Medical Society of Virginia at Virginia Beach, October 7-10, 1951.

As Fletcher points out, the average width of the bony pelvis at the level of the attachment of the parametrium is about 12 cm. Two fields 10 cm. wide at the skin surface cover an area about 25 cm. wide at the level of the parametrium when the focus-skin distance is 50 to 70 cm., throwing the periphery of the beam into the lateral iliac fossae. A 15 cm. long portal reaches above the sacral promontory. Though the pre-aortic nodes are sometimes the sites of metastasis, it is practically impossible to deliver a dose in the order of 6000 r in six weeks to this area and, therefore, inclusion of the area in the field of radiation is of questionable wisdom. More important, when 10 x 10 or 10 x 15 cm. portals are employed anteriorly, contact with the anterior superior iliac spines and the symphysis pubis prevents compression of soft tissues. Similarly, when the large portals are used posteriorly, the upper sacrum blocks soft tissue compression.

These objections Fletcher meets by using small cones and multiple small skin portals, the beams of radiation being directed so as to deliver a nearly homogenous depth dose to the entire intrapelvic tissues. He has been able to approach the desired 6000 r depth dose within six weeks while producing less severe systemic reaction and seldom more than a moist desquamation of the skin which heals in four to six weeks. We have been able to do the same.

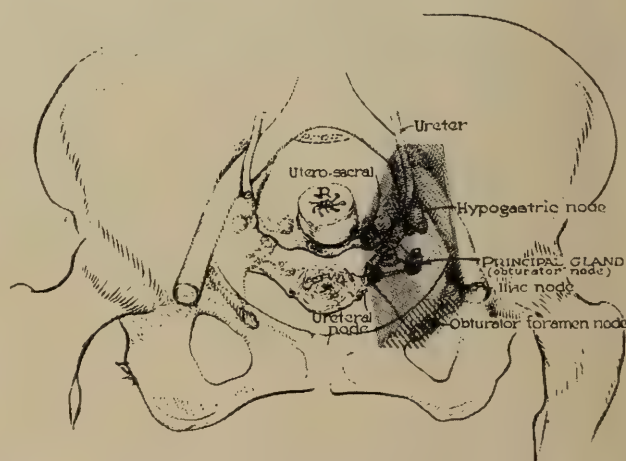


Fig. 1.—(Courtesy Dr. G. H. Fletcher) Node area in A P view.

Anatomically, the bloc of tissue to be irradiated in cancer of the cervix (Figure 1) consists of the broad- and uterosacral ligaments, and the four main groups of lymph nodes along the course of lymphatic spread on the pelvic wall. These nodes are the hypogastric, at the bifurcation of the common iliacs; the external iliac nodes along the pelvic brim; the nodes close to the obturator foramen; and the "principal gland" or obturator node on the lateral pelvic wall, halfway between the hypogastric nodes and the obturator foramen. The most lateral, the "principal gland", lies about 5 cm. from the midline at the level of the internal os. In each half of the pelvis (Figure 2), the

blocs of tissue, ten portals are employed, five on each side of the pelvis. Two anterior portals 8 x 12 cm. in size and separated by 2 cm. at the midline are arranged without angulation, the lower margin of the portals being as low as possible without impingement upon the pelvic bone. Posteriorly they are arranged as shown (Figure 3), three on each side. The sacral portal, about 6 x 10 cm. in size, is given an average tilt of 20 degrees toward the feet with the lower margin of the portal 2.5 cm. above the sacrococcygeal joint. The gluteal portal, also about 6 x 10 cm. in size, is generally tilted 35 degrees toward the head with the upper margin at the sacrococcygeal joint. A sciatic portal of about 4 x 12 cm. is angled mesially about 40 degrees. The exact portal sizes and angulation vary with the size of the patient, her surface contours, and the position of the cervix. The cervix must be located with the patient in both prone and supine positions before the portals are selected. If the cervix is not in the midline in either position, the portals must be shifted accordingly. The perineal portals, averaging 7 x 4 cm. in size, are placed lateral to the vulva in apposition to the skin surface and with no tilt. If the vagina is extensively involved, a medial tilt to converge on the vault is useful.

To return to Figure 2, we see that this arrangement of portals comes very close to producing homogeneous radiation of the tissue bloc which should receive a cancer control dosage. Homogeneity is achieved by giving the largest air dose through the sacral and sciatic portals, the next largest air dose through the anterior portals, and the smallest through the gluteal and perineal portals. In smaller patients whose skin tolerates radiation well, it is often possible to omit

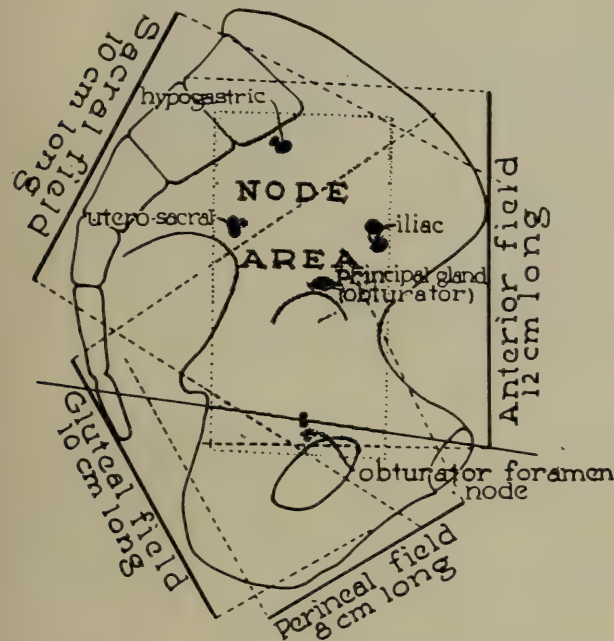


Fig. 2.—(Courtesy Dr. G. H. Fletcher) Node area in lateral view. tissue bloc constitutes a cuboid about 5 to 6 cm. wide, 5 to 7 cm. deep, and 10 cm. in height.

To achieve homogeneous radiation of these two



Fig. 3.—(Courtesy Dr. G. H. Fletcher) Perineal and posterior portals.

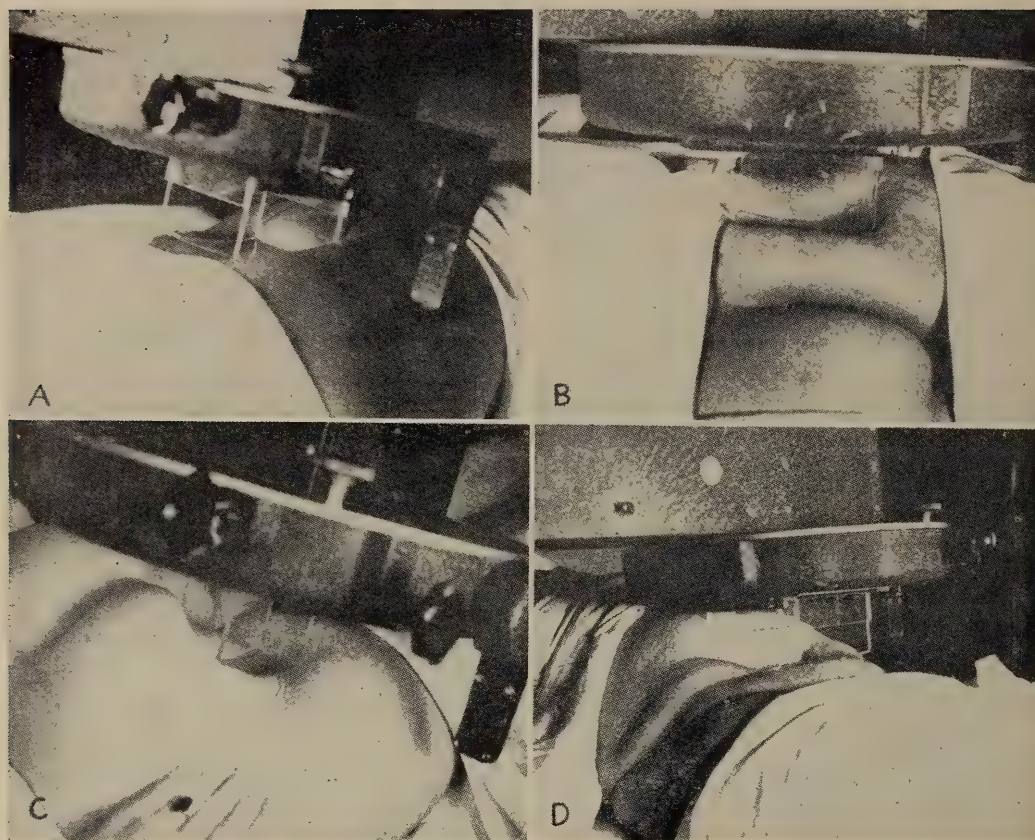


Fig. 4.—(Courtesy Dr. G. H. Fletcher) Soft tissue compression with small cones.

either the perineal or sciatic portals anteriorly, and sometimes to omit both.

The next figure, Figure 4, demonstrates a great advantage of the small portals and treatment cones. Except in the perineal and sacral portals, the cones can be advanced 2 to 6 cm. toward the tissue bloc by compression of soft parts. Obviously, the more obese the patient, the greater the advantage. The increased depth dose obtained by compression fully compensates for the reduction in depth dose produced by the reduction of portal size. For the same integral

dose, the same portals with compression (Figure 5) give a higher tumor dose than the usual 10 x 10 cm. or 10 x 15 cm. portals. The skin and underlying viscera are spared and the constitutional reaction is reduced. Furthermore, it is possible to deliver a larger total daily dosage. Whereas, through conventional portals, 400 r. divided between two portals is about as much as a patient can tolerate, through the small portals 600 r. divided between two portals is tolerated nicely.

This same treatment plan can be modified to meet

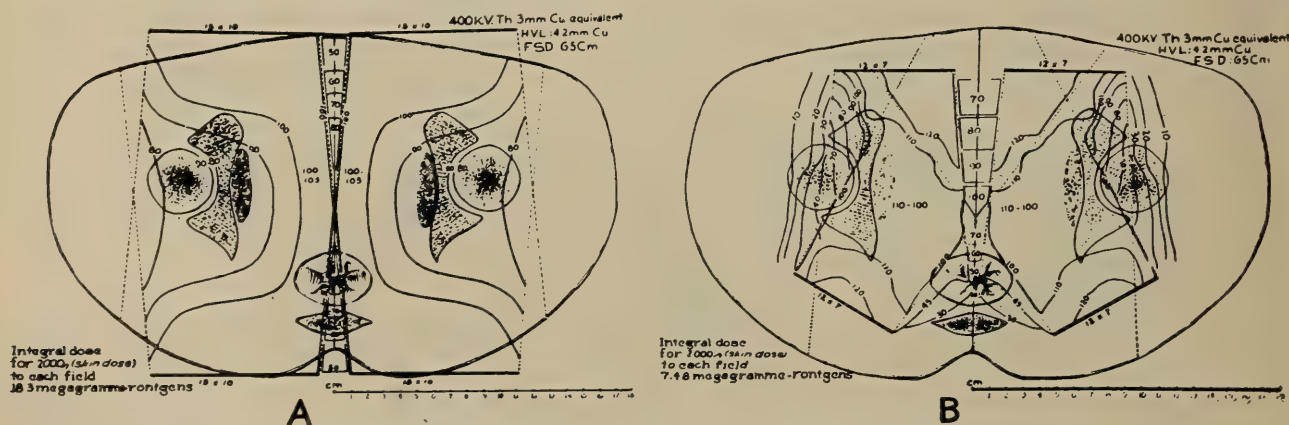


Fig. 5.—(Courtesy Dr. G. H. Fletcher) Integral dose comparison.

varying conditions encountered in carcinoma of the cervix and other pelvic cancers. The portals and angles are rearranged for treatment of cervical cancer that is producing extensive midline tissue destruction or hemorrhage, for adenocarcinoma of the endometrium, and for ovarian cancer. Those interested are referred to Fletcher's original article.

SUMMARY

Fletcher has presented a carefully thought-out,

logical plan of radiation therapy for pelvic cancer which we have found especially useful in the treatment of carcinoma of the cervix. Its advantages are so obvious that we do not believe there is any need to await statistical results before adopting it.

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Reports Successful Treatment of Trachoma with Sulfonamides.

The successful use of the newer sulfonamides in the treatment of trachoma was reported in the Feb. 23 Journal of the American Medical Association.

These drugs should "stand first in therapeutic choice because of their relative mildness of action and apparent specificity against the trachoma virus," in the opinion of Dr. Arthur A. Siniscal of Rolla, Mo., medical director of the Missouri Trachoma Hospital. Dr. Siniscal based his conclusions on the outcome of treatment of 3,500 patients suffering from the affliction observed at the hospital from 1941-1951. Some of the earlier sulfonamides were discarded for various reasons.

In addition to various sulfonamide therapies, the patients were subjected to many of the new anti-

biotic drugs. The antibiotics, according to Dr. Siniscal, proved of value in combating secondary infections associated with trachoma, but had no effect on trachoma, itself.

Hospital treatment, the report said, was three-fold: (1) eye drops containing a sulfa compound were administered every two hours for from 10 days to three weeks; (2) sulfonamides were administered internally by means of tablets four times a day for the first seven days, and (3) the eye was coated overnight with a sulfa compound ointment during the entire period of treatment.

When secondary infections were present, surface applications of antibiotic solutions were used. Dr. Siniscal pointed out that systemic injections of antibiotics were not given because the drugs do not produce sufficient measurable concentrations in the eye to be of benefit.

CONTEMPORARY CONCEPTS IN THE DIAGNOSIS AND MANAGEMENT OF EPILEPSY†

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The true incidence of epilepsy has been difficult to determine. Lennox¹ has estimated that there are about ten million epileptics in the world and only about 300,000 are receiving treatment. Based on figures determined by the frequency of epilepsy among World War I draftees, the incidence is given as .5% or 1 in 200 persons of the general population.² In the United States, therefore, there are probably 700,000 to 800,000 patients with epilepsy. This illness constitutes about 10% of this country's neuro-psychiatric burden¹. Thus, numerically at least, epilepsy should be as important to the physician in general practice as is active tuberculosis or diabetes.

Although interest in epilepsy has been widespread since antiquity and excellent observations and descriptions of this condition may be found in the earliest recorded medical writings³, the modern day understanding really began with the work of John Hughlings Jackson^{4,5}. Indeed, most research during the past two decades and notably the work of Penfield^{6,7,8,9,10,11} and his co-workers has confirmed many of Jackson's early theories with regard to epilepsy. The introduction and development of new types of electronic equipment for the study and investigation of the electrical phenomena of the nervous system has stimulated world-wide interest in experimental neurophysiology and clinical studies of epilepsy. Since an understanding of epilepsy is of great importance in the general practice of medicine, it seems worthwhile to present briefly some of the contemporary concepts in its diagnosis and management.

During the past fifteen years there have been many efforts to facilitate diagnosis and understanding of epilepsy by various types of classification. Because epilepsy is not a disease entity but rather a symptom complex or syndrome the classifications have been based on many and varied factors. New classifications^{8,9,11,12,13,14} are being constantly introduced and older classifications revised in an attempt to stay

abreast of the newest developments. The pioneering efforts of Lennox and Gibbs^{15,16,17} and their co-workers have for many years been the standard classification. A little later Penfield⁶ and Jasper^{18,19} and their co-workers presented their classifications based mainly on the very intensive investigation of a large group of patients who have been operated upon neurosurgically and who have had exhaustive studies clinically and electroencephalographically both before and after operations. In addition, detailed observations made following electrical stimulation of the brain and electrographic recordings during operation have warranted many conclusions given in their classifications. It is not my intention to present any critical evaluation of the many classifications now extant; nor do I wish to further confuse the issue by any new attempt at classification. It might perhaps be useful to attempt to correlate as much as possible the most recent contributions of Penfield^{7,8,9,10,11}, Jasper^{7,20,21}, Lennox^{22,23}, and Gibbs^{24,25,26} and their many co-workers. Since any understanding of epilepsy is inextricably tied up with an understanding of the electroencephalographic correlates, the important electroencephalographic findings will be presented in a separate table. With reference to this last statement I should like to re-emphasize a suggestion that I have made in a previous publication²⁷, namely, that any attempt at diagnosis and management of epilepsy without electroencephalography will be as ineffective as would be the diagnosis and management of pulmonary tuberculosis without x-ray studies or heart disease without electrocardiography or diabetes without blood and urine studies. This in no way diminishes the importance of adequate and detailed history and clinical studies, including physical, neurological, psychiatric and other laboratory examinations. Indeed, the diagnosis of epilepsy must be based primarily on an adequate and detailed clinical investigation of the patient.

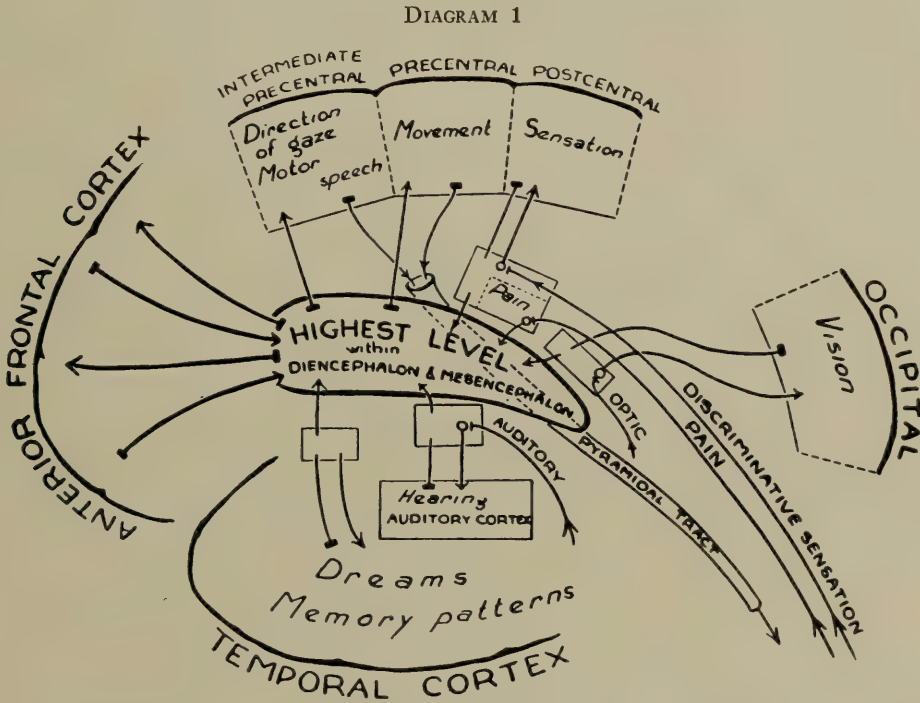
Very briefly and simply stated, the basis for the Penfield classification^{7,8,9,10,11} is an attempt to categorize the various epileptic seizure patterns according to the origin of the focus of the epileptic dis-

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†Read before the annual meeting of The Medical Society of Virginia at Virginia Beach, October 7-10, 1951.

charge. An epileptic seizure is defined as “a state produced by intense discharge of ganglion cells within the grey matter of the brain”¹¹ and, if all of the conditions which are capable of producing such discharges in the grey matter are grouped together, they may be called “the epilepsies”⁸. Whether such a discharge remains localized or spreads by contiguity to adjacent areas or by projection tracts to distant areas will determine the pattern of the epileptic seizure. Since an alteration of or a loss of consciousness is a fundamental component of many epileptic seizures it has been necessary to determine a probable center or seat of consciousness. Based

a discharge of sufficient intensity will produce a major convulsive seizure. When the movements are generalized at once without turning of the head to one side or the other, the attack is called “grand mal” or a major type of the highest level seizure. This should be differentiated from attacks that have a focal origin in the cortex. When the discharge originating in the highest level is of less intensity, there is only a loss or alteration of consciousness without generalized convulsive movements. This is the classical “petit mal”. The electroencephalographic correlate of this type of seizure is the bilaterally synchronous three per second wave and spike discharges.



Schematic diagram to illustrate the functional relationship (not anatomical details) between various cortical areas and the highest level. Penfield and Jasper (7).

on good experimental and clinical studies, such a region is believed by Penfield and Jasper to exist in the higher brain stem (diencephalon and mesencephalon). “This region of the brain is ‘highest’ in the scale of functional integration, the final re-representation of sensory and motor function”⁷. Hence the region is known as the “highest level” (diagram 1). This area is accessible by neuronal pathways to all areas of the cortex. Thus, discharges may be conducted to this area from various portions of the cortex or may originate in this area. In either case

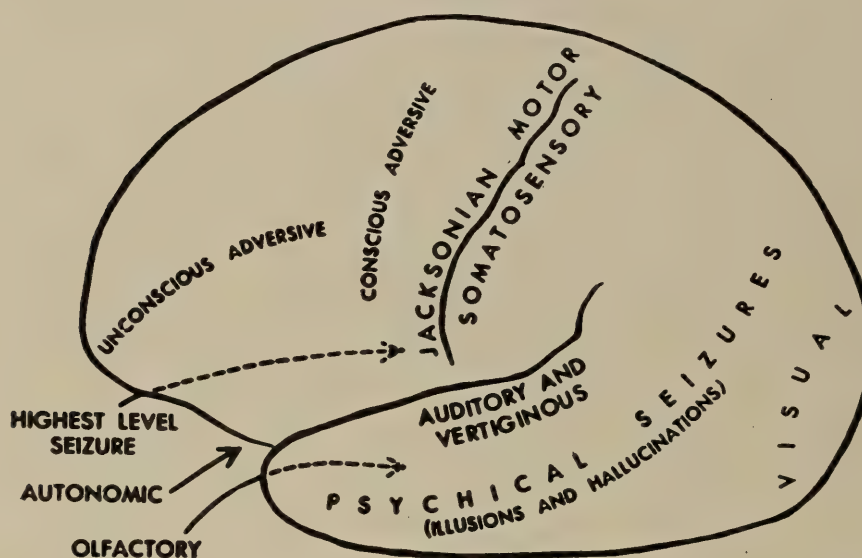
Penfield¹¹ suggests that the category of idiopathic or genetic epilepsy be limited to the major and minor seizures occurring at the highest level. The various functional areas of the cortex as determined by Penfield is presented in diagram 2. The functions of these areas have been determined by many and varied investigations including the electrical stimulation of the brain during operation.
In Table 1 is presented the four categories into which epileptic seizure patterns may be placed according to the focus of the epileptic discharge. In

Table 2 the electroencephalographic correlates for these various patterns are presented. The broken vertical line in both tables separates the Penfield and Jasper classifications from the Lennox and Gibbs classifications. An attempt has been made to place the comparable diagnoses of the two classifications at equivalent levels. The justification for this grouping in some instances may be questioned. The limitations of time will not allow complete discussion of these tables nor is it necessary to give detailed descriptions of the many well-established clinical

electrical stimulation and studies of the temporal lobe during neurosurgical operations have made possible much of the new knowledge. Indeed, in recent years attempts to treat psychomotor epilepsy by the surgical removal of portions of the temporal lobes, especially the anterior pole, have been reported by several investigators^{20,31,32}. Lennox²² in a recent publication has suggested a psychomotor triad (Tables 1 and 2, No. 3) and states that the term "temporal epilepsy" will probably soon replace the older terminology. It is important to point out that

DIAGRAM 2

Penfield and Rasmussen (10)



Seizure patterns. Highest level seizure begins with "petit mal" or loss of consciousness without lateralization; it arises in the diencephalon; unconscious adverse begins with loss of consciousness and turning to opposite side; conscious adverse begins with turning, without loss of consciousness, and without sensory aura; Jacksonian motor begins with somatic movement; autonomic begins in diencephalon but abdominal (gastrointestinal) aura in island of Reil. Psychical seizures include perceptual illusions, hallucinations, dreams, and memories. Other types are self-evident. Minor subdivisions omitted.

categories. Some of the new concepts deserve comment.

During the past five years there have been a plethora of communications on so-called psychomotor epilepsy and its relation to the temporal lobe^{22,24,25,28,29,30,31,32}. To some extent the interest was stimulated by the findings of focal electroencephalographic activity in the temporal lobes in psychomotor epilepsy and in the facilitation of the determination of such foci by EEG recordings during sleep. Also, the

temporal lobe seizures may at times be confused clinically with petit mal attacks or petit mal status. The differential diagnosis is facilitated electroencephalographically by the finding of temporal lobe foci in the former condition and the characteristic bilaterally synchronous three per second spike and wave activity in the latter condition. In Tables 1 and 2 it will be seen that petit mal of the highest level seizures (II b) is the equivalent of petit mal (pykno-epilepsy, 6a) of the petit mal triad of Lennox

Table 1
CLASSIFICATION OF EPILEPTIC SEIZURES

Probable Etiology	I. FOCAL CORTICAL SEIZURES (FOCUS IN CEREBRAL CORTEX) Various Localizations and Patterns a. Jacksonian Motor	1. Jacksonian 2. Focal Convulsion
Acquired	b. Somatosensory c. Auditory and Vertiginous d. Psychical e. Visual f. Others	3. Psychomotor Triad (Temporal Epilepsy) a. Psychomotor b. Automatic c. Subjective (Psychic) Seizures
Genetic	II. HIGHEST LEVEL SEIZURES (FOCUS PROBABLY IN HIGHER BRAIN STEM—DIENCEPHALON, MESENCEPHALON) (IDIOPATHIC EPILEPSY) a. Major Seizures ("Grand Mal") b. Minor Seizures—Petit Mal	4. Autonomic (Thalamic and Hypothalamic Epilepsy) 5. Grand Mal 6. Petit Mal Triad a. Petit Mal (Pykno-epilepsy)
Genetic and/or Acquired	III. MYOCLONIC SEIZURES (FOCUS LOWER BRAIN STEM AND SPINAL CORD) IV. CEREBRAL SEIZURES (UNLOCALIZED) a. 1. Incompletely Analyzed Cases 2. Diffuse Brain Disease b. Extra Cerebral 1. Systemic Disease 2. Metabolic Disease (Hypoglycemia) 3. Toxemia of Pregnancy 4. Uremia 5. Hyperpyrexia 6. Others	b. Myoclonic Jerks c. Akinetic 7. Other Types a. 1. Congenital Defects 2. Encephalitis b. General Conditions c. Stokes-Adams Syndrome d. Carotid Sinus Sensitivity e. Others

(Based on Penfield, Lennox and Gibbs)

and Gibbs. Williams¹² suggests the term "juvenile petit mal" for this seizure type. It should be differentiated clinically, electroencephalographically, and etiologically from the myoclonic jerks and akinetic seizures of the petit mal triad. Gibbs and Gibbs²⁶ have recently described another form of epilepsy which they call thalamic and hypothalamic epilepsy (Tables 1 and 2, No. 4). They state that this condition may at times be confused with psychomotor epilepsy and other epileptic syndromes. Clinically the condition is characterized by attacks of pain, rage and vegetative symptoms. Electroencephalographically, 14 and 6 per second positive spike discharges are recorded during sleep, appearing bilaterally, and are independent in each hemisphere. The condition is relatively infrequent, occurring in only 6% of pa-

tients with a clinical history of epileptiform disorders.

In the present composite classification the probable etiologic considerations are not presented in detail. The major categories of genetic (idiopathic) and acquired (symptomatic) etiology or a combination of the two is shown. It must be emphasized that such separation is quite arbitrary and the present consensus of most workers indicates that probably both factors contribute in most patients but to a varying degree³³. Statistically, Lennox has shown in a study of a large series of clinic and private patients that in over 75% of all cases there is no history of antecedent disease or evidence of organic factors. Williams in England¹² suggests the possibility that there is a dual inheritance of the state of epilepsy, an

Table 2
CLASSIFICATION OF EPILEPTIC SEIZURES—EEG FINDINGS

Probable Etiology	I. FOCAL CORTICAL SEIZURES	1. Jacksonian
	a. Superficial Cortical Convexity	2. Focal Convulsion
	Random spikes, localized unilateral. Relatively normal activity from other head regions.	3. Psychomotor Triad.
Acquired	b. Buried Cortical Foci	Generalized high voltage slow waves or temporal spikes. In monopolar sleep recordings generalized positive spikes and a negative spike focus in one or both temporal areas.
	Random sharp waves, 2-6 per second. Paroxysmal rhythms more diffuse unilateral or bilateral from homologous areas of the two hemispheres. Background rhythms relatively normal from other areas.	
	II. HIGHEST LEVEL SEIZURES (IDIOPATHIC EPILEPSY)	4. Thalamic and Hypothalamic Epilepsy.
	Various forms of projected disturbance, usually rhythmic sharp and slow waves, usually bilaterally synchronous from homologous areas. Background activity often disturbed periodically.	14 and 6 per second positive spikes usually bilaterally in sleep recordings.
Genetic	a. Major Seizures ("Grand Mal")	5. Grand Mal
	Often same as for petit mal between attacks but with more prominent spike components. May also show diffuse "fast" or "multiple spike" activity in paroxysms.	
	b. Petit Mal	6. Petit Mal Triad
	Bilaterally synchronous spike and wave at 3 per second. Relatively normal activity between attacks.	a. Petit Mal (Pykno-epilepsy) Generalized high voltage "dart and dome" at 3 per second.
	III. MYOCLONIC SEIZURES	b. Myoclonic Jerks
	Bilaterally synchronous multiple spike and slow wave discharges maximum over frontal lobes occurring in short paroxysms not regularly repeated in rhythmic sequence.	Single petit mal "dart and dome".
Genetic and/or Acquired		c. Akinetic
		High voltage 2 per second waves or slow spike and wave frequently localized.
	IV. CEREBRAL SEIZURES	7. Other Types
	Diffuse Cortical	
	Random slow and sharp waves, occasional rhythmic sequences. Considerable independence of two hemispheres. Little or no normal activity in background.	

(Based on Penfield, Jasper,

Lennox and Gibbs)

epileptic factor and a limiting or anti-epileptic factor. Based on extensive studies of post-traumatic epilepsy plus evidence from other sources, he suggests that a hereditary constitutional factor not only predisposes a person to epilepsy but helps to determine the form the epilepsy will take. "It is potent and predisposing to symptomatic epilepsy whether due to injury, infection or tumour, as well as in initiating idiopathic epilepsy". He indicates that after trauma to the brain the failure of the anti-epileptic factor to prevent the spread of the epileptic state permits the creation of an epileptic brain. When the anti-epileptic factor is effective it prevents larval attacks from disturbing consciousness and behaviour.

Although to some extent the age of onset of seizures

may give presumptive evidence of the cause of the seizures the final proof of the etiologic determinants must be based on a careful appraisal of each patient clinically and electroencephalographically. Penfield⁸ has pointed out that presumptive causes for seizures beginning at various age levels are as follows: infancy (0-2 years)—birth injury, degeneration, congenital defects; childhood (2-10 years)—birth injury, febrile thrombosis, trauma, or idiopathic; adolescence (10-20 years)—idiopathic or trauma; youth (20-35 years)—trauma or neoplasm; middle age (35-55 years)—neoplasm, trauma and arteriosclerosis; senescence (55-70 years)—arteriosclerosis and neoplasm. Recent evidence of many investigators, both pediatricians^{34,35} and electroencephalographers³⁶, indicates

that convulsions in infancy and early childhood must be carefully studied clinically and electroencephalographically before idiopathic epilepsy can be ruled out. The incidence of convulsive disorders in children's clinic and hospital admissions varies from 1 to 7%. In a three year period at the Children's Clinic of the Johns Hopkins Hospital, Bridge³⁴ has reported that convulsive disorders were the most frequent of five major pediatric problems. It occurred twice as frequently as rheumatic fever. Although it is true that convulsions with high fever, the so-called "simple febrile convulsions", are relatively common in children below three years of age and represent about one-third of the cases of convulsions below this age level, it is important to point out that Bridge, in a study of 742 children with proven epilepsy, reports that the first seizure occurred before three years of age in 50% of the cases. Convulsions with fever may also be due to acute brain disease, such as meningitis and encephalitis, cerebral vascular accidents complicating common infectious diseases, and occasionally to brain abscess or cerebritis associated with acute otitis and mastoiditis. Margaret Lennox³⁶, in a careful study clinically and electroencephalographically of 153 children with febrile convulsions and 52 children with idiopathic epilepsy whose initial convulsion occurred with fever, has shown clearly that abnormal electroencephalograms occurred in 45% of the first group and that febrile convulsions may be the beginning of idiopathic epilepsy. She recommended that children who have febrile convulsions be studied electroencephalographically within one week after the convulsion, a month later, and again at 5 or 6 years of age.

The management of epilepsy to be completely adequate must consider four important aspects: psychological, pharmacological, surgical (where indicated), and sociological. Recent studies^{37,38,39,40} are more and more reaffirming the importance of the psychological handling of patients with epilepsy. Whether or not one is willing to accept all of the psychodynamic concepts which have been suggested as to the significance of epilepsy, there is no doubt that emotional factors play a significant role in the precipitation and control of seizures. The myth of the epileptic personality has been exploded, but the importance of seizures in personality development and psychological adjustment cannot be too strongly emphasized. Indeed, on occasions, more intensive psychotherapeutic

measures than the usual supportive psychological therapy may be needed before an individual case is adequately managed. The differential diagnosis between psychogenic and epileptic seizures may at times be difficult, especially when such seizures are accompanied by an apparently normal routine electroencephalogram. With modern activation techniques,^{28,41,42,43,44} however, abnormalities will appear in the electroencephalogram in almost all patients with epilepsy. Hypnosis⁴⁰ has recently been found to be a valuable tool in differentiating between psychogenic and epileptic seizures, the differentiation being based on whether or not the patient under hypnosis could recall the details of his seizure.

With reference to the pharmacological management of epilepsy, I shall not attempt to discuss all of the important drugs and their proper dosages. This has been well documented in the literature^{2,45,46,47,48,49,52}. In spite of the extensive research by many laboratories and the experimental use of many new types of medications, the truly ideal anti-convulsant has not yet been discovered. For all of the favorable effects of the drugs most commonly used there are toxic complications in many instances. The severity of this toxicity varies with the individual drug. The proper choice and dosage of the drugs available is still in a large measure a question of trial and error. In order to obtain the maximum cooperation of patients in therapy, it is well to be quite frank with the patient with reference to trial and error procedure and anticipate the need for proper change in drugs or dosage. In view of the excellent correlation that has been made by many investigators of the success of specific drugs correlated with specific types of seizures, as determined electroencephalographically, much time and expense may be saved by employing first the type of drug that has proven most effective in a specific type of seizure. In general, it might be stated that the drugs should preferably be used singly, but, if necessary, in combination with gradual increase in dosage until attacks are either fully controlled or toxic symptoms appear. Too frequently a specific drug may be considered ineffective only because there was a failure to employ adequate dosage.

The safest drugs are still phenobarbital and Dilantin (sodium diphenylhydantoinate)^{46,48,50}. The lowest incidence of blood dyscrasia has been reported with these drugs. According to many investigators, Dilantin alone or in combination with phenobarbital

has proven quite effective in all types of epilepsy with the exception of minor seizures of the highest level type or petit mal epilepsy. For the latter condition, in my experience, the drug of choice has been Paradione (paramethadione). This drug is similar to Tridione (trimethadione) but less toxic. Tridione and Mesantoin (methylphenyl-ethyl-hydantoin) have a wide popularity and are undoubtedly quite effective in some cases but nevertheless must be considered as dangerous medications⁵⁰. Although it is recommended that frequent blood studies be performed and adequate records kept of such studies in all patients receiving anti-convulsant therapy, and especially with the more toxic drugs, recent evidence⁴⁸ indicates that such procedures may provide the physician with a false sense of security in preventing the morbidity or mortality of blood dyscrasias. When toxic manifestations are evidenced by blood studies it is recommended that such studies be continued after the drug is stopped to detect any depression of the bone marrow. Recent surveys^{50,51,52} have reported varying numbers of fatalities in the literature due presumably to anti-convulsant medication. In one survey⁵¹ three deaths were reported from Mesantoin, three from Tridione and one from Phenurone. In another survey⁵⁰ nine deaths have been reported from Tridione and six from Mesantoin. Six deaths have been reported from Phenurone⁵². Four of the Phenurone deaths^{49,52,53} were due to hepatitis and two were due to aplastic anemia^{52,54,55}.

The newest anti-convulsant drug that has been made available on the open market is Phenurone (phenylacetylurea); it was released last month (September 1951). This drug has been used experimentally for about four years. Although there has been some variation in its evaluation by many investigators^{48,49,52,53,54,55,56,57,58,59,60,61,62} the drug has been released with appropriate caution as to its important toxic manifestations which include psychic disturb-

ance, gastro-intestinal symptoms, rash, drowsiness, headache, hepatitis and blood changes (leukopenia, aplastic anemia). Most important are the personality changes which occur in approximately 17% of patients receiving the drug. The psychiatric disturbances are usually decreased interest in surroundings, depression, and suicidal tendencies. In addition to monthly blood studies, the urine should be examined for urobilinogen to determine the presence of pathological amounts which appear before clinical signs of liver damage. My own experience with Phenurone has been with a small experimental group of seven patients who have been carefully selected and followed clinically and electroencephalographically during the past three years. The drug was furnished through the courtesy of the Abbott Laboratories. The results are as tabulated in Table 3. All patients had been previously treated with a variety of medications without success. During the investigation all the patients received only Phenurone. All the patients were adults varying in age from 21 to 49 years of age. Improvement as shown in the table of 50% for temporal lobe seizures and 40% for combined major seizures and temporal lobe seizures is considerably lower than the favorable results reported in larger series of cases by other investigators. In one report⁵² which evaluates the results in a composite group of 1,539 cases, about 70% of the patients with psychomotor seizures alone or in combination with other types of seizures were improved with Phenurone.

A very important and practical issue to the general physician treating a patient with epilepsy pharmacologically is the determination of criteria for discontinuance of drug therapy. Although the improvement in clinical seizures and electroencephalography do not necessarily follow a parallel course, the correlation is usually good except that the improvement in the EEG record lags behind the improvement

Table 3
PHENURONE
(Phenylacetylurea)

<i>Diagnosis</i>	<i>Number of Cases</i>	<i>Controlled</i>	<i>Improved</i>	<i>Unimproved</i>	<i>Toxic</i>	<i>Percent Improved</i>
Temporal Lobe Seizures	2	1	0	1	0	50%
Major Seizures and Temporal Lobe Seizures	5	1	1	1	2	40%

in clinical seizures. Discontinuance of medication is certainly safer if the electroencephalogram has shown improvement and the patient has been free of clinical seizures for an adequate length of time. Too often we have seen patients who have been maintained on drug therapy for many years longer than necessary. The physician managing the patient without the adjunct of electroencephalography has been reluctant to discontinue medication for fear that seizures would reappear.

In a numerically small number of patients who are not controlled by an adequate trial on intensive therapy with various combinations of medications and who show a consistent localization of a discharging focus as determined clinically, electroencephalographically and pneumographically, neurosurgical removal of the focus may be attempted. This may be done if the focus is in a location where removal is feasible without increasing the patient's disability. Penfield⁸ has reported that in suitable patients surgical removal is justifiable in any area of the cortex except the arm and leg area of the precentral gyrus and the essential speech area of the dominant hemisphere. He states that complete or practical freedom from attacks can be promised in 56% of cases of surgical excision at present⁸. Because of the extreme complexity and unusual skill required in making such localizations as well as the unusual skill required in the actual surgical technique, there are comparatively few centers throughout the world equipped for such surgery. Penfield and Erikson⁶ have reported 22.5% cases cured and another 22.5% greatly improved in a group of 165 patients by resection of the cicatrix and epileptogenic focus. The operative mortality was 3.8%. Penfield and Steelman⁶³ reported on 26 cases of post-traumatic epilepsy of which 13 cases or 50% were cured or markedly improved by cortical excision. Walker⁶⁴, in a report of 40 cases of post-traumatic epilepsy, states that for one year after operation one-third of the cases of cortical excision had no further attacks and another one-fifth had only one attack or the aura of their attacks. Bailey³⁰, Penfield³¹, and Morris³² have published recent reports on the value of surgical excision for temporal lobe seizures. With proper selection of these cases about 50% of the patients will show improvement.

The last but not least important aspect in the management of epilepsy is the proper handling of

the sociological implications of the patient's illness. These considerations include the work and social adjustment as well as the complications related to marriage and children. Lennox^{65,66,67} has written extensively in this regard. There is still considerable prejudice and many misconceptions both among physicians and laymen alike related to epilepsy. Great efforts are being made in public enlightenment by such organizations as the National Epilepsy League, Inc.⁶⁸, but it is fundamentally the duty and the responsibility of the physician treating the patient to assist social workers and other interested individuals and agencies in the rehabilitation of the patient and the adequate handling of his sociological difficulties.

SUMMARY

1. The incidence of epilepsy and its importance in the general practice of medicine is reported.
2. A brief resume of the concept of epileptic seizure patterns as presented by Penfield and Jasper and their co-workers is discussed.
3. A composite classification based on the important contemporary concepts in the diagnosis of epilepsy is presented.
4. The significant EEG correlates of the epilepsies are given.
5. The importance of electroencephalography in the diagnosis and management of the epilepsies is stressed.
6. New observations with reference to temporal lobe seizures are presented.
7. The new syndrome of thalamic and hypothalamic epilepsy as recently described by Gibbs and Gibbs is discussed.
8. The importance of adequate study clinically and electroencephalographically of febrile convulsions in infancy and childhood is stressed.
9. The management of epilepsy must include the psychological, pharmacological, surgical (where indicated) and sociological aspects.
10. The general use of drugs is discussed in the management of epilepsy.
11. Dangerous complications and fatalities reported with anti-epileptic drugs are discussed.
12. Phenurone, the newest anti-convulsant drug, is evaluated and a report of the personal results in a small experimental group of patients is given.

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ACNE—A FIFTY YEAR REVIEW*

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and
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The problem of acne is the unhappiness of adolescence. There is no crippling nor mortality, yet, if one agrees with Mr. Jefferson, it cannot be under-rated, for he states the pursuit of happiness is of equal importance to life and liberty. The problem in essence is not the lack of professional ability but being allowed to exercise that ability to the fullest. The minds of parents are so overloaded with folklore and the profession so wedded to worn out theories which do not produce results, one has to argue and plead for a scientific and practical treatment that the unhappy boy or girl may be given their chance for happiness.

In this problem there are two frustrations. First, the frustrated girl or boy who is callously told, "There is nothing which can be done; you must out-grow it." This is simply not so, and the poor adolescents are abandoned to their own adolescent guidance. Second, the frustration of the dermatologist who can do a good job if given a green light, but is met by impossible demands for perfection, time and expense.

There is a cruelty in ignoring acne. There is no bumpy-faced girl who, if she had the choice, would not prefer a broken leg or an abdominal operation. The elder of the presenters of this paper has time and again after the first lecture on acne had some student with his face deeply scarred say to him, "You think you know what you are talking about," pointing to his face, "but until you have gone through the crucifixion of an acne persecuted adolescence, you don't know the half of it."

Maybe we do not know the half of it, but because something must be done and given carte blanche as to method and time, the results in acne compare favorably with the results in other fields of medicine, we feel a review covering fifty years of acne is worthwhile. Be it said, the procedures reported are not from medical literature, but those things used and appraised by this speaker through all this time.

*Read before the annual meeting of The Medical Society of Virginia, at Virginia Beach, October 7-10, 1951.

CHRONOLOGICAL REVIEW

1901	Sulphur locally
to	Mechanical cleansing (opening pustules, removing comedones)
1915	Care of the scalp
	Tonic medication (iron)
	Dietary and elimination supervision
	Vaccine therapy
1915	Sulphur locally
to	Mechanical cleansing
1925	Care of scalp
	Tonic medication
	Dietary supervision
	X-ray coming in
	Ultra violet coming in
	Vaccine less employed
1925	Sulphur locally
to	Mechanical cleansing
1935	Care of scalp
	Vaccine abandoned
	Diet less impressed
	Tonic a minor factor
	X-ray generally used
	Thyroid therapy (Sutton)
	Liver therapy in deep pustulation
	Ultra violet generally used
	Hormone therapy experimental
1935	Sulphur locally
to	Mechanical cleansing
1951	Scalp care
	Diet less stressed
	X-ray as a standard
	Ultra violet less used
	Liver therapy
	Vitamin A
	Thyroid and tonic (only in recognized deficiency)
	Antibiotics
	Hormone therapy increasing

So we see that according to accepted dermatological practice, three things only have continued through this time as dependable: The local use of sulphur, the removal of comedones and draining of abscesses with the treatment of the scalp for the usual co-existent seborrhoea.

Since its introduction, x-ray has proved itself a standard technique. Ultra violet has faded because

of its transient and unpredictable behavior. This is to be expected because there are many cases of acne helped by sun exposure but also many acnes date from sunburn, particularly on chest and shoulders.

Hormone therapy looms large in the future.

Worn out ideas linger long with those whose thoughts are not primarily confined to the subject in hand. Long after the profession has abandoned what they once believed, the laity still carries on and parents are so convinced of what is now folklore that it prevents a modern approach:

First—that blackheads are due to dirt and a soap scrubbing is all that is necessary.

Second—that acne is due to an improper diet which, if corrected, all will be well.

Third—acne is a symptomatic reaction to other troubles and not a distinct pathological entity.

What is acne? A change takes place in the nature of the sebum. There are inflammatory reactions at the mouth of the sebaceous follicle and by oxidation the formation of the comedone. This forms a cyst with retained skin bacteria. Later on these break down the sebum into pus. The comedone is evacuated and the lesion heals with cicatrization.

The first steps in this syndrome are still mysterious but it is certain that other factors can accentuate a process already started. This is particularly true of iodine and bromine and the patient should be directed to avoid bromide sedatives and the use of iodized salt in their foods.

There must be a chief cause and modern research seems to be closing in on Androgen, the male hormone, as the first factor, but more of this later.

How anything acts which increases acne is not too well understood, but the fact is admitted and a new word is coined for the occasion—Acnogenic.

Always foods have been regarded as acnogenic and it is a controversial subject. Sulzberger in the Year Book for 1949 makes this statement—"In acne it is not known whether such foods act as allergans or whether they exert their undesirable action by some other mechanism. However, whatever the mechanism of food aggravation of acne vulgaris, the fact has been established that the available skin tests are useless for finding the offending foods."

One gets weary of following worn out paths with no visible help and the elder of the presenters of this paper is now convinced that foods have no effect in acne except in their fat content which overburdens

the fat metabolism. Chocolate, for instance, has always been considered a chief offender, but chocolate is a heavy fat and the same harm can be done by French fried potatoes or a dish of vanilla ice cream. He is convinced there is nothing specific about the effect of foods, nothing remotely related to the processes of allergy.

Regarding acne as symptomatic of focal infection is an illusion. In any crippled children's hospital will be found a sick and wasted adolescent without a pimple on his face and there are few football squads which do not have some young giant among them who is at the apex of physical perfection and his face a mass of acne pustules.

Yet we have seen tonsils, teeth, and even appendices removed not because of their essential pathology but because of a hope that when this was done the acne, the main disturber, would leave.

There is a deep and infiltrating type of acne called variously—acne indurata, acne conglobata or cystic acne. Certain men have actually thought of this as a tuberculid and treated with rest and forced feeding. We have seen too many cases in the physically robust to agree to this but these are the cases where our best help has come from concentrated liver therapy, using the ten unit product hypodermically along with x-ray.

The general use of x-ray in acne dates from 1918, when George Miller McKee published his classic work, "X-ray and Radium in the Treatment of Diseases of the Skin." He established the boundaries of safety and laid down certain rules of procedure not only for men but for machines—mathematical formulae which, if obeyed, made the therapy without hazard. The chief warning was the avoiding of production of erythema. Much observation proved that if erythema from any cause, such as intercurrent sunburn or local applications, was avoided, the treatment was without hazard and enormously helpful. But why the insistence on x-ray in acne? Because it is the only treatment which has any effect on the problem of relapse. Acne is a relapsing disease and the patient who receives x-ray is usually better three months after stopping than while treatment is going on. No other therapy has this virtue.

This paper is a review of fifty years and in the first twenty years x-ray was not used. A conscientious review of these eras convinces us that x-ray properly used is an infinitely better technique than

anything that went before. Not to have used it would have been neglect.

It is not defensive but merely a statement of fact to say that the objections to the use of x-ray in acne do not come from the trained dermatologist or radiologist in the main but from those who in their lives have never laid their hands on the handle of an x-ray machine.

We feel forced into this statement because a constantly recurring patient statement, "My physician is opposed to x-ray because he fears scarring." Now the scarring referred to is pitting. X-ray damage is atrophy with telangiectasia and never pitting. The pitting in acne is due to acne necrotic processes and pitting is prevented, not accentuated, by x-ray. Where there has been hypertrophic scarring as in the conglobata type, x-ray is the only thing which will reduce it. We have checked our records since 1921, and we find that we have treated over twenty-six hundred cases of acne, seven hundred and fifty-one receiving x-ray before 1941. The usual treatment has been 75R given unfiltered once a week for eight weeks. In many cases this has been repeated after a year of rest. So we have had ample opportunity to run into trouble and observe it if trouble should occur.

It would be impossible to contact all these cases for obvious reasons but we have seen very many as returned cases for other troubles. We have carefully examined a large number of such people, many after fifteen years or more, and have to date no single case of carcinoma or atrophy on the acne treated areas. There has been one case of a mild telangiectasia of the nose which could be due to other causes. But this should be said, at no time have we varied the laws laid down by McKee, and, furthermore, the constant calibration and supervision of machines has been a routine procedure. The fear of an effect on sterility with the patient is too absurd to deserve consideration. At this date, x-ray is still the most decisive factor for good in acne therapy. Conservative men have advised that x-ray not be used before age sixteen. This is all right, if acne be controlled by other means, but it is fantastic to stand aside and let a child's face be butchered by acne because of a theoretical and unsubstantiated fear.

This is no discussion of the details of therapy but of the larger aspects of the problem. It is hard to avoid an attitude in x-ray which does not lay you

open to the criticism of being a purist. But there is no other way. When right results follow a right technique, it is unintellectual to fear a treatment because there are cases where the technique has been bad. In such statements we feel we are voicing the opinions of two departments of medicine, dermatology and radiology, and not merely the opinions of two individuals.

Antibiotics are too new to properly evaluate. In the aggravated pustular phases penicillin sometimes helps but in other cases actually it seems to aggravate the lesions. Aureomycin or chloromycetin has given more dependable help.

Multiple vitamins have given us no help. On the other hand, vitamin A in large doses is decidedly worthwhile.

Looming large on the horizon is the use of sex hormones. The terms, man and woman, are relative and there is no such thing as a complete differentiation of sex. It has been said, "There is a buried female in every male and a buried male in every female", and it is the over-powering influence of androgen and estrogen which makes for the degree of differentiation of sex types. Hormone therapy has worked out well with girls and may be the future treatment. With boys it is still experimental. With girls hormones given for the mid two weeks of the menstrual cycle cause no functional upset and the effect on the acne is at times dramatic, particularly in the conglobata type. If any therapy will replace x-ray, hormone therapy is its most likely competition.

With no exact conclusions, it is now believed that there is a ratio of balance in the normal and there is a shift in the ratio of balance in the acne case. In confirmation of this is the very recent observations of acne appearing in pre-puberty cases after the administration of ACTH or cortisone.

Androgen and estrogen can be considered antagonistic in their action and, if androgen be adjudged the main acnogenic factor, then the use of estrogen in acne becomes logical.

There can be no doubt each decade has added to our ability to meet this problem. Profound bacteriological research has proved of no value and the effect of those things we do is not entirely understood. Sulphur is a poor antiseptic but its benefit is obvious. X-ray is of slight antiseptic value but its good effect

in superficial infections has been amply proven. It all boils down to this. Acne is a clinical problem and good results are obtained if those things are used which have proved of help by trial. To approach the case, dominated by a theory, is the road to failure.

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Conduct of Adam and Eve at the birth of their first child. p. 342.

—: *The same, Paris, 1771. M.L.)*

—: *De morbis veneriis libri novem, in quibus disseritur tum de origine . . . Lutetiae Parisiorum, Guillelmus Cavelier, 1740. 2 v. engr.fronts 25½ cm. (M.L.)*

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This book belonged to Dr. Howard A. Kelly.

—: *A treatise on the diseases of women; in which it is attempted to join a just Theory to the most safe and approved Practice. With a chronological catalogue of the physicians, who have written on these diseases. Translated from the French original; London, J. Nourse, 1762. xxi, 375 p. illus. 20½ cm.*

—: *Treatise on all diseases incident to women. London; M. Cooper. 1743. vi, 480 p. 19.7 cm.*

Astruc was born at Sauve, in Languedoc, in a Huguenot manse and baptised in a protestant church, but he never knew himself as other than a professed Roman Catholic. While he was a child his father abjured his Protestant faith, took to the profession of law and taught his two sons literature and philosophy. Jean studied medicine at Montpellier. He became professor of anatomy at Toulouse in 1710 and of medicine at Montpellier in 1716. About 1728 he moved to Paris. According to Ricci, Astruc was the first to use the term hydatid mole and the first to state its placental origin. He gave an accurate description of ectopic pregnancy. In 1736 he wrote the history of syphilis and venereal diseases. In 1753 he wrote "Conjectures sur les Mémoires originaux dont il paraît que Moyse s'est servi pour composer le livre de la Genèse." This was one of the early works on higher criticism of the Bible. He showed from internal evidence that Genesis is a commingling of at least three distinct accounts.

His works on obstetrics and the diseases of women were popular with early Americans and a list of the books of old Virginia doctors usually contains one or more Astruc items. In the preface of his *obstetrics* he makes the statement that he had never attended a woman in labor.

Astruc was well thought of by his contemporaries, but some theologians answered his criticism of the Bible with arguments *ad hominem*. Prof. Howard Osgood (1892) says that he was a profligate and the paramour of Madame de Tencin. Dr. Norman Moore, who presided over the section on the History of Medicine of the Royal Society of Medicine when Sir Alexander Simpson presented his paper on Jean Astruc, said that Astruc was much too busy to have been a profligate. Sir William Osler, who discussed the paper, said that Prof. Osgood's sources were "drawn from the bitter enemies of the Jesuites, with whom Astruc was associated."

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THE SILENT GALLSTONE: SIGNIFICANCE AND MANAGEMENT

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"It is never too late to give up our prejudices. No way of thinking or doing, however ancient, can be trusted without proof."—HENRY DAVID THOREAU.

INTRODUCTION

Usually a cholecystogram is done because of the suspicion of gallbladder disease based upon symptoms customarily associated with such pathology. When gallstones or a non-functioning gallbladder are discovered, and after a careful survey by roentgenological examination of the gastro-intestinal tract, general physical examination, laboratory study and consideration of the differential diagnosis of gallbladder disease, there are no other causes found for the symptoms, it is generally recommended that a cholecystectomy be performed.

At times during x-ray examination of the colon, stomach, or urinary tract, there is a visualization of radio-opaque stones (about 1/3 of gallstones are opaque) in the gallbladder. Under certain circumstances a cholecystogram is done as a routine part of a general diagnostic survey in the absence of symptoms directly attributable to the gallbladder. The findings of a non-functioning gallbladder or a gallbladder containing stones under these conditions then poses a therapeutic problem. Evaluation of the history may leave one with the conclusion that these gallstones are "silent". The problem of management in such cases cannot be simply stated and to properly manage such cases, the potential significance of the silent gallstone should be recognized, and the answers to certain questions are of great importance.

DISCUSSION OF BASIC PROBLEMS

The incidence of gallstones has a bearing on the problem of therapy. In 16,936 autopsies done at the Mayo Clinic, Robertson¹ found an incidence of 16.3% with gallstones of which 12.6% were males and 22.6% were females. In 61% of these cases there had apparently been no suspicion by the patients or by their attending physicians that gallstones were present. Obviously, after taking into consideration this source of error, it seems that the percentage of silent gallstones may well be high. As Comfort, Gray, and Wilson² point out, one is impressed not only with the large number

of people with gallstones, but also with the large number of *silent* gallstones potentially present in the general population.

The mortality resulting from surgery of the gallbladder as *commonly* performed is a factor that will be of great importance in any decision regarding cholecystectomy for silent gallstones. Thompson³ in a survey of 500 patients operated upon for gallbladder disease in a community hospital found an operative mortality of 4%. When this was broken down into two groups of 250 consecutive cases, the first having been operated in 1938-1941 and the second 1947-1949, there were 13 deaths in the first group and 6 deaths in the second group. The incidence of postoperative complication was 17%. The mortality in the acute cases treated surgically was 7% which was only slightly greater than the overall mortality of 4%. Comfort, Gray, and Wilson² at the Mayo Clinic stated that the mortality of cholecystectomy is about 0.5% in uncomplicated disease and 3% for complicated disease in the hands of an experienced surgeon. The overall picture is probably best described in the figures first quoted from the community hospital, and it is with figures such as these that I believe we should consider the advisability of surgery in gallbladder disease with the potential mortality of surgery in mind.

The results of surgery, once it has been successfully performed, are of decided interest when we consider committing a patient to surgery. Glenn⁴ in a review of the results of cholecystectomy performed for cholelithiasis stated that the reports of successful results of cholecystectomy varied from 80-92% of patients with stones. At the New York Hospital his figures showed 84-86% successful results after a two year follow-up. Persistent symptoms were found to be due to three general groups of cases. One group may be classed as the failure to make a complete diagnosis, including unrecognized peptic ulcer, recurrent attacks of appendicitis, renal disease or cardiac damage. Common duct stone, long cystic duct remnant and stricture of the biliary ducts are

factors causing postoperative disability related in one way or another to the surgery itself. Then there is a third group in which the poor result is due to a dyskinesia of the sphincter of Oddi or pylorospasm. These three groups are all about equal in frequency and amount to about 5% each of the 15% poor post-operative results.

The potential complications of gallstone disease, their incidence and predictability bear strongly on the decision regarding cholecystectomy. In a cancer conscious medical profession and public it is essential that we consider cancer of the gallbladder. This causes about 6,500 deaths annually and is associated with gallstones in from 65-95% of the reported cases⁵. There are two important studies that are of value in this problem. Candler⁶ in a survey of 315 cases of gallstone disease in the insane found only two associated cases of carcinoma of the gallbladder. Vadheim, Gray, and Dockerty⁷ found that symptoms of disease of the biliary tract had been present in their 77 cases of primary carcinoma of the gallbladder for an average of 14.2 years in 80% of the patients. One might conclude from these figures that the chances of cancer developing or being present in association with silent gallstones is negligible and should not be an indication for surgery. However, Bockus⁵ stated that the incidence of carcinoma of the gallbladder is somewhat less than formerly, perhaps because of the common practice of removing gallbladders. Certainly any method of prevention of carcinoma of the gallbladder that is feasible, should be considered, as the cure rate of carcinoma of the gallbladder is not more than 2.5%.

The development or presence of a common bile duct stone is a complication that is to be feared, but a report by Heyd⁸ is of interest in this respect. In a study made of 1,270 cases, in which symptoms of gallstones had been present for two years or less, the incidence of stones in the common duct was 1.9%. In another group of patients in which the symptoms of cholecystic disease had been present for 10-25 years the incidence of stones in the common duct was 16%. The conclusion from this study, and from basic knowledge of the symptoms of common duct stone, would be that, so long as the stone remains silent the chance is slight that it is in the common duct.

Acute cholecystitis may occur at any time in the presence of stones, but with the improved surgical

mortality rate of acute disease noted before and with an incidence of only 1.5% reported by Buxton, *et al.*,⁹ acute cholecystitis is not an important factor in a consideration of *prophylactic* surgery.

The role of cholelithiasis in the development of acute and chronic pancreatitis has been repeatedly stressed by writers on the subject of pancreatitis. Pancreatitis must be borne in mind as a possible complication of cholelithiasis⁵. The common channel theory is considered to be important in the development of both gallbladder disease and pancreatitis. A common channel (of biliary and pancreatic ducts) is present in from 61-89% of cases⁵, allowing under certain circumstances regurgitation of bile into the pancreatic ducts and pancreatic enzymes into the bile ducts and gallbladder with a mutual ill effect possibly resulting.

PROGNOSIS OF SILENT GALLSTONES

With these studies as a background, we now can turn to the problem of what will happen to the patient with silent gallstones if no surgery is performed. There are two recent studies available that give us a statistical survey which we may utilize in deciding how likely the complications previously discussed may arise. Comfort, Gray, and Wilson² presented a long term follow up of 112 cases with silent gallstones found at the time of surgery for other conditions. In these 112 patients the following symptoms ultimately developed:

Colic -----	16
Indigestion -----	30
Jaundice and Colic ----	5
—	—
51 patients (45.5%) developing symptoms.	

Of the 51 patients that developed symptoms, surgery was done in 24 with three deaths, resulting in a 12.5% mortality. Twenty-eight patients died of causes unrelated to the gallbladder disease. Blackford, Bird, and Casscells¹⁰ reported non-operative results on patients with abnormal cholecystograms that were followed an average 6.5 years. These cases were not classified as to whether they were silent or symptomatic but apparently were the latter so apply only partially in this study of silent gallstones. Of 50 patients with stones in the gallbladder or non-function of the gallbladder there were 28 patients that had unsatisfactory results, being an incidence of 56% poor results under medical therapy. We can

judge from these two studies that over one-half of the patients with abnormal cholecystograms and a slightly smaller percentage with silent gallstones found at the time of surgery will ultimately do poorly either from the symptomatic standpoint or by development of complications of gallbladder disease.

PREVIOUS OPINIONS

The surgical treatment of the silent gallstone has received a variety of opinions, of which the following are a few chosen examples. Musser¹¹ concluded in 1934 that "it is doubtful if interference is indicated for the first or even the second biliary colic if evidence of infection is lacking." Andrews¹² said in 1946, "I think the operation on silent gallstones is a scandal." White¹³ in 1928 stated that "many silent gallstones show a gallbladder wall that is bacteriologically negative. Cholesterol stones especially lie dormant for years. Surgery should be based on symptoms, not on the mere presence of stones or low grade infection. I believe that most patients escape perceptible injury to other organs."

On the other hand, Lahey¹⁴ in 1938 expressed the conviction that there are no harmless gallstones and because of the dangers of acute cholecystitis and biliary obstruction all gallstones should be removed. Carter, Green, and Twiss¹⁵ said that "in every instance in which stones can be demonstrated to be present, surgery is indicated to prevent the dangers of acute ulcerative cholecystitis". Clute and Kenney¹⁶ felt that "in the great majority of simple or silent gallstones an early elective cholecystectomy is wiser than an operation into which one is forced by the complications of the disease." It is of interest to consider a statement by Robertson¹ at this point. He stated that "Logically, if it is necessary to remove all gallstones, quiescent or symptom producing it is also desirable to test the gallbladders of all adults frequently, both by cholecystography and by searching clinical examinations, and if gallstones are found, to suggest immediate operative interference." There is considerable food for thought in this statement if one adopts an overall radical policy.

PRELIMINARY SUMMARY

Silent gallstones are present in a significantly large proportion of the population and constitute a problem of importance in the daily practice of medicine and surgery. The surgical mortality is about 4% in the average community hospital, and postop-

erative complications occur in about 17%. The late results of cholecystectomy are unsatisfactory in 15% of cases with cholelithiasis. The mortality in acute gallbladder disease is 7% in a community hospital. Follow-up studies show that about 50% of patients with silent gallstones develop symptoms eventually. The various complications of cholelithiasis have been briefly discussed with emphasis placed on the fact that symptoms of cholelithiasis are usually noted over a period of time before these complications arise. The wide variation in the opinion held by well known authorities is cited.

A METHOD OF APPROACH

It should be a fundamental concept that every patient presents an individual problem and hard and fast rules are liable to error or misinterpretation. Therefore, if gallstones are found and no symptoms are present, management should be individualized, keeping in mind that we know only a few of the generalities and have no knowledge of the specific outcome in the individual, and that our approach to similar local pathology may be modified by systemic disease or other factors.

There are certain local findings that might indicate a need for cholecystectomy. Those patients with a number of small calculi in a functioning gallbladder are usually susceptible to repeated attacks of colic and should be treated surgically. An example of variation in this principle would be in the patient with a hematological disorder often associated with gallstones, such as hemolytic anemia, sickle cell disease, etc. In such a patient the primary disorder should be treated with slight regard for the silent gallstones as the seriousness of the blood dyscrasia is the most important concern. In the patient with a gallbladder packed with stones, filling the gallbladder snugly, surgery should not be postponed because of the danger of erosion of the gallbladder wall leading to pericholecystic abscess, perforation of the gallbladder, or internal biliary fistulae.

It is obvious that the surgical risk should be considered carefully, keeping in mind not only the obvious factors of cardiac status, pulmonary function, etc., but also findings indicating an increased risk of pulmonary emboli, such as previous phlebitis or severe varicosities. There is another problem in the case with a borderline risk and that is the possibility that a disease not adding to the operative risk at

present may reasonably by progression create a prohibitive risk in the unpredictable future. If a patient is likely to be in such a category surgery now might be considered as conservative.

Having in mind all of the above considerations the patient with silent gallstones may be told he has about an even chance that symptoms will develop. A lessened, but still significant risk is to be noted if surgery is done before complications develop or old age or physical disability occur, but the increase in risk is counter-balanced by the fact that if he defers surgery he may never require an operation. It is not possible on the basis of information now available to tell the patient whether the risk is greater or smaller if operation is performed while the gallstones are silent than if it is postponed until symptoms develop. It will be a low mortality in either case. Surgical treatment in a patient with silent gallstones otherwise in good condition may be classified as elective or optional surgery but intervention should not be postponed after symptoms and more especially after attacks of colic appear. A final consideration is the patient. We all know in our practices the maladjusted individuals who have "never felt well since *that operation*". If we can pick out such patients beforehand they are best treated with conservatism.

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New Books

Below are listed some of the newer books secured by the Tompkins-McCaw Library of the Medical College of Virginia, which are available to our readers under usual library rules:

- Asthma Research Council—Physical exercise for asthma. 8th ed. 1949.
- Boek and Boek—An Analysis of the Multi-Test Clinic of Richmond, Virginia, 1951.
- Cuneo, H. M.—Brain tumors of childhood, 1952
- Dublin, L. I.—The facts of life from birth to death. 1951.
- Ecker—The normal cerebral angiogram. 1951.

Irvine, K. Neville—B C G Vaccination in theory and practice. 2nd ed. 1950.

Lepeschkin, E.—Modern electrocardiography. Vol. 1 P. Q. R. S. T. U. 1951.

Miller & Hyde—Gynecology in gynecological nursing. 2nd ed. 1949.

Rich, Arnold R.—Pathogenesis of tuberculosis. 2nd ed. 1950.

Schafer, Paul—Pathology in general surgery. 1950.

Soresby, Arnold—Genetics in ophthalmology. 1951.

Stevenson & Guthrie—History of otolaryngology. 1949.

White, Paul—Heart disease. 4th ed. 1951.

CHANGING FASHIONS IN THE TREATMENT OF INFLUENZAL MENINGITIS*

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and

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The treatment of influenzal meningitis has progressed considerably during the past decade. With the advent of chemotherapy, the outlook changed from a hopeless one to a very favorable one. The purpose of this paper is to show our experience with this disease at the University of Virginia Hospital. Since the advent of type specific antiserum in 1940, we have treated a total of 36 cases of meningitis due to *Hemophilus influenzae*, type B.

SHOWING AGE INCIDENCE

Age	No. of Cases
under 6 mos. -----	7
6 mos. to 1 yr. -----	7
1 yr. to 2 yrs. -----	6
2 yrs. to 3 yrs. -----	7
3 yrs. to 4 yrs. -----	3
above 4 yrs. -----	2

Youngest—3 mos.

Oldest—7 yrs.

Fig. 1.

Figure I shows the age incidence of this disease in our series of patients. This is important because many workers have shown that the prognosis is worse in those patients under one year of age. Twenty-seven of our patients were under three years of age and fourteen were less than one year of age.

The diagnosis was made by spinal fluid examination in all cases. Figure II shows the importance of

SHOWING NO. POS. BLOOD CULTURES, ETC.

Total No. of Cases -----	32
Positive Direct Smear -----	27
Positive Blood Culture -----	26

Fig. 2.

careful direct smear examination. Pleomorphic organisms typical of influenzal bacilli were found in twenty-seven of the cases. Culture of the blood often proves to be quite helpful. Twenty-six of the patients had positive blood cultures. In thirty-one of the patients, culture of the spinal fluid was positive.

*Read before Spring Scientific Meeting of the Virginia Pediatric Society, May, 1951.

In the three patients with negative spinal fluid cultures, the blood cultures were positive.

Before the introduction of chemotherapy, the mortality rate of influenzal meningitis exceeded 95%. The mortality rate at the above hospital was 100%. With the discovery of the sulfonamide drugs and the advent of type specific antiserum, the treatment became more hopeful. At the present time the treatment is satisfactory and quite gratifying. There are several agents of definite value. Figure III enumerates the various therapeutic agents.

Alexander was one of the first investigators to use the sulfonamide drugs in the treatment of influenzal meningitis. She found they were of some value but that only in a very few cases could treatment be successful¹. This has been our experience. Of six patients treated with one of the sulfonamides alone, all of them died. However, the course of the disease was definitely prolonged.

In May, of 1940, the first case of influenzal meningitis at the University of Virginia Hospital was treated with type specific antiserum. This was the first case ever to survive at the above hospital. The next 13 patients were treated with sulfadiazine, serum and supportive measures. Three of the 13 patients died, giving a mortality rate of 23%. This mortality rate compares favorably with that of Alexander.² In a series of ninety patients treated with sulfadiazine and antiserum, her mortality rate was 20%. Crook had a mortality rate of 23% in a series of 52 patients³. However, only 63% recovered without residuals.

In 1946, with the discovery of streptomycin, it was shown that this drug was effective *in vitro* and *in vivo* against *Hemophilus influenzae*. With the use of streptomycin alone, Alexander was able to cure 66% of twelve children so treated⁴. Alexander then advocated the use of a combination of sulfadiazine, serum, and streptomycin. With this method of treatment, 19 of 25 recovered completely. Three

AGENTS USED IN TREATMENT OF INFLUENZAL MENINGITIS

<i>Drug</i>	<i>Dose</i>	<i>Route</i>	<i>Value</i>
Sulfadiazine	1-1½ gr. per lb. per day	orally, I. V.	unsatisfactory
Type specific antiserum	100 mgm.	I. V., S. Q.	++++
Aureomycin	50-100 mgm per kilo per day	orally, I. V. if necessary	+++
Chloromycetin	100 mgm per kilo first 24 hrs. 50 mgm per kilo thereafter	rectally, orally I. V.	++++
Terramycin	Value not established		
Streptomycin	40 mgm per kilo per day 50 mgm i. s.	intramus. intraspinal	+++
Penicillin	Of No Value At All		

Plus marks indicate degree of efficiency. Serum is preferably given in an intravenous drip; give 100 mgm. initially, and may give additional dose, depending upon the quelling test. If chloromycetin is given rectally, dose must be doubled.

Fig. 3.

died and three recovered with residuals¹. Hodes and his co-workers treated 49 patients with the triad of drugs and noted a complete recovery in 65%, a fatality rate of 16%, and recovery with residuals in 19%. Seven of our patients were treated in this fashion and six recovered without residuals. There was one death, giving a mortality rate of 14.3%.

Woodward and his associates reported the use of aureomycin in seven cases of influenzal meningitis⁵. There were no deaths. Four patients in our series were treated with a combination of serum, aureomycin, and streptomycin. One of these, a four months old child moribund on admission with a temperature of 108.4 degrees, died. Two cases were treated with aureomycin and serum, and both recovered without residuals. Aureomycin is of definite value but it has the disadvantage of causing nausea, vomiting and diarrhea. It has also been shown that spinal fluid cultures may remain positive for as long as seven days⁵.

Prather and Smith⁶ reported the use of chloromycetin alone in the treatment of 15 cases of influenzal meningitis. There were no deaths. This drug has the advantages of diffusing rapidly into the spinal

fluid, and of being relatively non-toxic. It sterilizes the spinal fluid in 24 to 48 hours. It can be given orally, intravenously, or rectally. There is need but for two lumbar punctures, one for diagnosis and one prior to discharge. We have treated eight patients with chloromycetin and serum. One died, giving a mortality rate of 12.5%.

We are of the opinion that chloromycetin and serum is the treatment of choice at the present time. We know by past experience that serum will cure the great majority of cases. Certainly, serum seemed to be the common denominator in our 36 cases. We have not had to contend with any serious reactions to serum. Chloramphenicol is almost non-toxic, is easy to give, and has been shown to be very efficacious. However, from our experience, we advise against the discontinuance of antiserum at this time.

The complications of influenzal meningitis were rather frequent among our patients. Figure IV lists these. Otitis media was by far the most frequent. Penicillin is of real value in the management of the complications of this disease. Recently, Ingraham and associates⁷ reported the presence of subdural effusions in eight of 23 random cases of influenzal

meningitis. Symptoms and signs that suggested this complication were persistent fever, convulsions, vomiting, and any focal signs at a time when one or

COMPLICATIONS

Otitis media	11
Pneumonia	4
Serum Reactions	3
Deafness	2
Mastoiditis	1
Symptoms and signs suggestive of subdural effusion ..	5

Fig. 4.

dinarily expects the patient to be doing well. Incidence was greatest in the first year of life. Prather and Smith⁶ reported the same experience. In reviewing our cases, we found symptoms and signs quite suggestive of subdural effusions in five. In our last seven cases, we have been aware of this complication, and have looked for it. We have not seen it although subdural taps have been done freely.

Figure V shows our experience with follow-up visits. These have been inadequate. We have not

FOLLOW UP VISITS

No sequelae at discharge—No further follow up	12
No sequelae with follow up on several occasions	12
Died	6
Bilateral deafness	2

Fig. 5.

carried out intelligence tests with our patients; however, we have not been impressed with a lowering of mentality in these children. Bilateral deafness in two patients was the only residual noted. Neither of these two patients received streptomycin.

SUMMARY

A total of 36 patients with type B influenzal meningitis were treated in several different fashions. The over-all mortality rate was 16.6%. Two patients were moribund on admission and three of the deaths occurred during the first 16 hours of hospitalization. It is our opinion that early diagnosis and treatment are essential to a good prognosis. Three of our six deaths occurred before specific therapy became effective. Type specific anti-influenzal rabbit serum was certainly the common denominator in our cases. However, chloramphenicol may prove to be quite satisfactory alone. Complications and residuals were enumerated.

Four cases are included in the paper which are not shown in the tables.

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SURGICAL TREATMENT OF GLAUCOMA

A Study of Seventy-Five Consecutive Cases

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In the past twenty-four years, we have had an opportunity to review the operative work of various surgeons from different medical centers during the week of our Spring Graduate Course, and also to observe the work in various clinics here and abroad. As a result of our observations and experience, we have developed a technique, which, in our hands, gives uniformly good results in the treatment of secondary and chronic glaucoma. The operation is *iridencleisis*.

It is stated that true glaucomas are binocular and only about 8% of them are acute inflammatory processes. Of all the blindness in the United States, ap-

differential diagnosis and the medical treatment. It will be assumed that a correct diagnosis has been made and surgical intervention is indicated. The only question is the type of operation best suited for the particular patient.

The technique which we present embodies five important features:

1. It is essential that we have a broad double flap consisting of conjunctiva and Tenon's capsule;
2. The incision must be at least two millimeters back of the limbus;
3. The sphincter muscle must be cut;

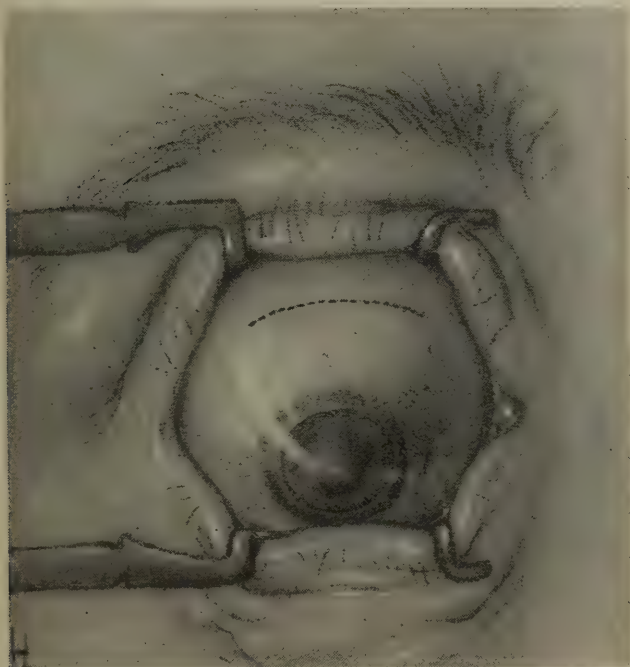


Fig. 1.

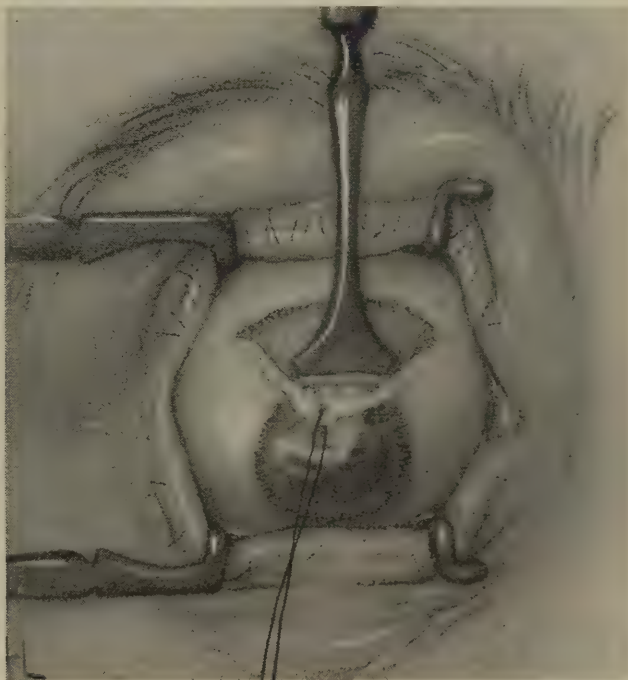


Fig. 2.

proximately 5% is caused by glaucoma, and, of these cases, about 90% are of the simple variety.

It is generally conceded, however, that no perfect method has as yet been devised to cure chronic glaucoma. We have no desire to disturb the equilibrium of anyone capable of performing a good trephine operation or any other surgical procedure for the relief of glaucoma. We wish only to give the results of our study in seventy-five consecutive cases. We are intentionally omitting a discussion of the

4. The radial incision in the iris must reach the very periphery of the iris;
5. There should be no root of the iris over the site of the coloboma.

TECHNIQUE

The technique incorporates the features just mentioned. The patient is given nembutal, grs. $\frac{1}{2}$, two hours prior to operation, and H.M.C. No. 2 one hour

before surgery. We use retrobulbar injection and one to two cc. of novacain with epinephrine; we produce akinesia by the Van Lint method. We usually wait five to ten minutes after the injection as absorption is slow in glaucomatous eyes. A straight incision is made through the conjunctiva and Tenon's capsule just below insertion of the superior rectus muscle. This gives a double flap. It is carried down to the limbus with extreme care to avoid button-holing of the conjunctiva. The anterior chamber is opened with a small keratome. It is important that the incision be made at least two millimeters back of the limbus. The opening is just large enough to admit the introduction of small iris forceps. In many

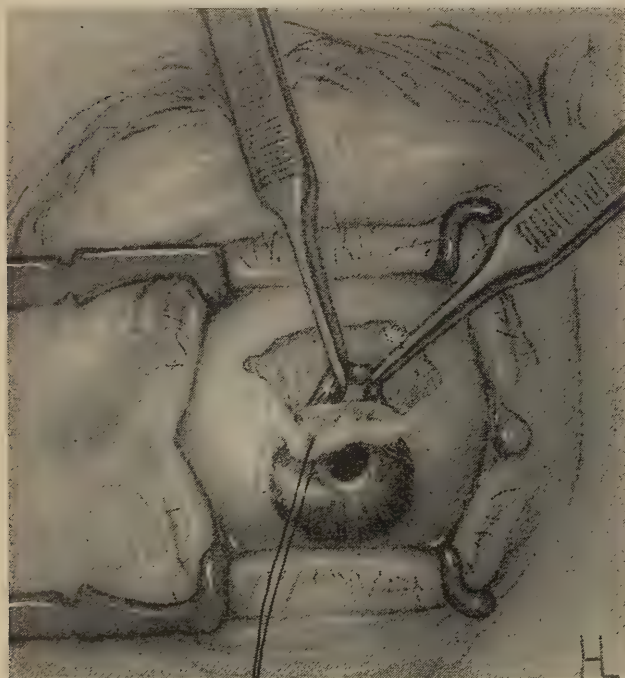


Fig. 3.

patients, as soon as the incision is made, the iris will prolapse, thus preventing the necessity of introducing any instrument in the anterior chamber. It is essential not to abrade the pigment epithelium, and it is also important that the pillars of the iris be pulled taut into the angle of the wound and left there. The tautness of the iris prevents blocking of the filtration angle.

INDICATIONS

The operation is indicated in chronic cases and also in secondary glaucoma. Some prefer to use it only in patients with chronic simple glaucoma. We do not hesitate to employ it in any type of glaucoma.

CONTRAINDICATIONS

There are no contraindications. Some writers have presented the possibility of sympathetic ophthalmia. We have not had this experience in our series of cases. In a recent article by Reese, in the *Archives of Ophthalmology* for December, 1945, he reported 110 consecutive cases and quoted Kronfeld of the Illinois Charitable Eye and Ear Infirmary, who has had 200 cases, and neither had a case of sympathetic ophthalmia to develop. I do not think that the incidence of sympathetic ophthalmia is sufficient to be a serious contraindication to the operation.

ADVANTAGES OF THE OPERATION

With this operation there is not only the possibility

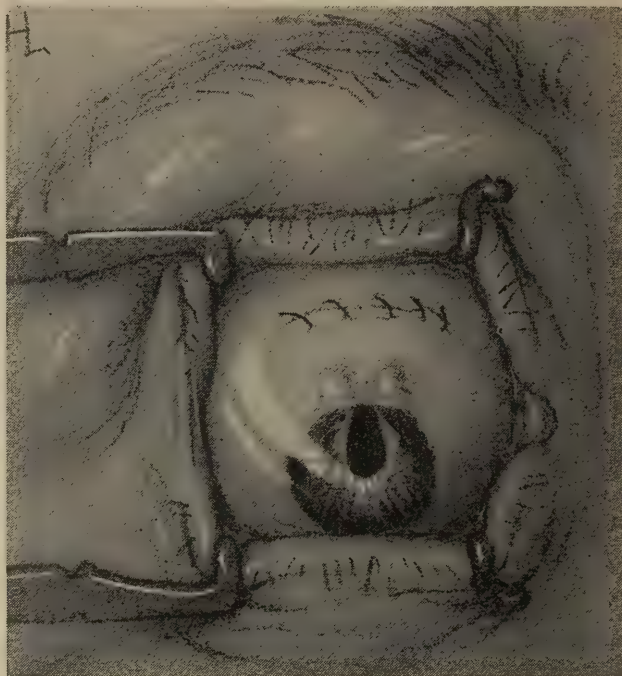


Fig. 4.

of arresting the disease but also the assurance that few if any complications will develop. This assurance is not afforded with the trephine operation, which is often followed by iritis, detachment of the choroid, changes in the lens, and often retarded restoration of the anterior chamber. It can be used in any type of glaucoma.

RESULTS

It is difficult to evaluate the statistics in our seventy-five cases as the state of the disease in which the operation was done was not always the same in each person. Furthermore, the duration of the fol-

low-up period was not the same. From the standpoint of arresting the disease and relief of pain, we have been successful in seventy-five consecutive cases. By arresting the disease, we mean that the tension remains within normal limits. It does not imply, however, that the vision will remain the same, as frequently the vision will continue to decrease. This is due to damage to the tissues of the eye prior to the operation.

COMPLICATIONS

We have not had any serious complications in our series of cases, nor have we been impressed by this in the hands of others in a review of the literature. Sometimes a mild iritis is present which has never proved serious. Eyes with primary glaucoma are predisposed to the development of cataracts. Operations for glaucoma in general, especially trephine operations tend to hasten the development of these incipient cataractous changes. Iridencleisis opera-

tions seem to indicate that this procedure predisposes less to the progression of incipient cataract changes than any other operation for glaucoma except possibly the straight iridectomy. We did not encounter any case of hypotony, detachment of the choroid, slow restoration of the anterior chamber or late infection.

CONCLUSIONS

Because of the simplicity and efficiency of the operation herein described, we recommend it to ophthalmologists who are not satisfied with the results they have obtained with other surgical procedures.

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711 South Jefferson Street

New Books

We list below some of the new books received by the Tompkins-McCaw Library of the Medical College of Virginia, Richmond. These are available to our readers under usual library rules:

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ACUTE SHOULDER BURSTITIS AS ENCOUNTERED IN GENERAL PRACTICE

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When the term shoulder bursitis is mentioned a physician unaccustomed to the management of cases of shoulder bursitis thinks fleetingly of a minor, transitory affection causing a little pain in the shoulder. With no further ado he dismisses it along with vague thoughts of aspirin and heat adequately covering the situation. No doubt this is true of many minor episodes involving the shoulders but occasionally there is an encounter with a severe, fulminating type of shoulder bursitis of such nature as to constitute a major illness and to cause more suffering and disability than many major operative procedures. Two or three years ago a busy practitioner would encounter a case of bursitis now and then, but in the past year the number of patients having severe disabling bursitis appears to have increased. In my own practice within the past six months there have been six, all of which were severe and caused considerable disability.

The anatomy of the shoulder girdle will not be developed in this paper except briefly. There are six to eight bursae located about the shoulder joint. Some are constantly present but others may be absent. Some of these communicate by small openings with the shoulder joint proper. Others form closed synovial sacs which, when acutely inflamed, become distended with fluid or pus. At times several bursae communicate with one another. All of them are covered by the deltoid muscle, except one, which lies superficially over the acromion process and seldom causes trouble. Practically any bursitis of the shoulder is of necessity subdeltoid but different bursae may be involved and points of maximum tenderness vary accordingly. The three most important bursae as judged by the difficulties they cause are: 1: The bursa subdeltoidea, which lies between the deltoid muscle and the major tubercle of the humerus. This one is most frequently involved and is the point toward which most therapeutic measures are directed. When distended and in a subject not too heavily built this bursa can be palpated as a fluctuant, tender point directly over the major tubercle of the humerus. 2: Bursa sub-

acromial, which is primarily located between the capsule of the joint and the supraspinatus muscle and both are beneath the bony acromion process. 3: Bursa coracobrachialis, which lies beneath the coracoid process and separates the coracobrachial muscle from the tendinous intersection of the subscapular muscle. All three of these bursae lie adjacent to, either beneath or above, muscles whose action abduct the arm and, consequently, the movement of abduction is invariably painful when these bursae are inflamed.

Acute shoulder bursitis is properly classified as a medical emergency, not because life is endangered but because the pain caused by it is so severe. In mild cases codeine and salicylates do help relieve this, but in severe ones nausea and vomiting develop before relief of pain occurs. Morphine and dilaudid likewise give little or no relief. The reason for this is that most of the pain arises from muscular spasm and this spasm is increased by the slightest movement. With the help of drugs and from exhaustion a patient may doze momentarily at times only to be jerked awake with pain when the muscles about the shoulder suddenly snap into spasm.

Also, an aching, bone type of pain is present continually. It radiates most often down the arm to the elbow, wrist and hand. There are times when the patient complains much more of the pain in his hand, wrist or elbow than he does of the shoulder. In three patients only the slightest movement of the fingers was possible and this caused severe pain. Occasionally pain may radiate to the chest and borders of the pectoral muscles on the affected side.

Upon entering the patient's room the doctor can often make the correct diagnosis without a word having been spoken and without touching the patient. They usually sit upon the edge of the bed, lean slightly forward and toward the affected side. The forearm on that side is folded across the abdomen and supported by the other hand. The shoulder droops as the patient shifts his position slowly and ever so slightly. Pain, fatigue and utter exhaustion show in their faces. They can neither

lie down nor move about. The slightest shaking of the bed will cause strong and otherwise stoic men to cry and shed tears like a child.

Examination should begin with inspection of the shoulder. Often there is a noticeable difference in the two shoulders and the painful one will show rounding and slight fullness over the point of the shoulder. Moderate edema of the entire arm and hand may be present. Very gentle finger tip palpation quickly locates the point of maximum tenderness which should be marked with ink for further reference. If the confidence of the patient can be obtained, the elbow may be held in one hand and the wrist in the other and the arm abducted slightly. As long as the patient remains relaxed he has little pain but any contraction of the muscles on his part immediately results in a terrific spasm and pain.

Certain observers have made a division among patients—those with bursitis and those having so-called tendinitis. In clinical observations I have been unable to make any clear cut distinction between them. All of the symptoms present in one are present in the other and the only factor upon which to base a distinctive diagnosis is the appearance of small calcium deposits about the shoulder. However, these are often found in shoulders never having had any symptoms at all and other shoulders giving marked symptoms show no calcium deposits. From a practical standpoint they are one and the same and are similarly treated. The demonstration of the presence of calcium deposits is, however, of value. It indicates an abnormal process that has been going on for some time and, while there may have been no symptoms as yet, an acute episode may develop at any time. I have no analytical studies to show that calcium deposits occur more frequently in those shoulders having symptoms but such has been my impression and, of my six recent cases, four showed calcium deposits about the shoulder joint. It has been noted that on several occasions radiopaque bodies have disappeared following acute inflammatory episodes. Whether they disappear as a result of therapy or as a spontaneous process following inflammation and its accompanying increased vascularity cannot be told. No doubt therapy helps but I suspect some disappear without therapeutic measures having been instituted.

Treatment of acute shoulder bursitis will be considered under several headings. In general there

is little agreement as to just what form of treatment is best. All agree that no one method is always satisfactory. In handling my own patients I have employed practically all of the recommended measures and found that what one patient responds to may cause the next to be more uncomfortable. Having nothing specific to offer, one must proceed to some extent by trial and error. It is the duty of the physician to relieve pain and if he can accomplish this he will have an appreciative patient for life. Pain is the thing that forces the most rebellious patient to seek medical aid and, consequently, it is the hub about which therapeutic measures revolve. Initially, the relief of pain is the only important objective to seek.

Drugs: The use of narcotics for the relief of pain has proven unsatisfactory. Even large doses of codeine, morphine or dilaudid give very little relief. Nausea and vomiting which they induce cause the patient to retch and strain, every movement of which sets up additional muscular spasm and increases pain in the shoulder. Small doses of codeine given with salicylates or in combination with empirin compound do give some relief if the process is not severe. Unless specifically instructed, most patients will repeat this too often and will induce vomiting. It is better to use codeine sparingly and supplement with another drug such as demerol. Usually, to give some immediate relief, I give demerol 100 mg. hypodermically. This appears to lessen muscular spasm and the exhausted patient will soon fall into a sleep which will last from three to four hours. Accompanying this hypodermic injection, sodium salicylate in 10 gr. enteric coated tablets is given orally and repeated every four hours along with $\frac{1}{2}$ gr. of codeine or 100 mg. of demerol in oral tablets. For the first two or three nights hypodermic injections of demerol may have to be given fairly often. Some member of the family can usually do this after brief instruction. Tolserol, a fairly recent drug development, should be mentioned. It is supposed to relieve spasm of striated muscle and there are favorable reports of its use in acute shoulder conditions. However, I have had little experience with it and have been able to obtain satisfactory results with other accepted drugs.

Heat: Contrary to reports by some writers I have found heat to be of considerable value provided it is applied correctly. In the acute phase heat applied

as infra-red rays for thirty to forty minutes several times daily, accompanied by very gentle stroking of the affected part gives marked relief. Following this, methyl salicylate is applied locally without massage and the patient then slips on a thin shirt of cotton and over this a light 100% wool sweater or jacket with long sleeves. The hand should be wrapped in a light wool shawl. The patient should sleep in this attire. Infra-red may be easily obtained by the use of inexpensive electric bulbs made for this purpose or if an open fire place is available simply by allowing the reflected heat to play on the exposed skin. Patients with means will gladly purchase one of the larger standard infra-red lamps and they are well worth while. They cost usually about twenty-five dollars.

After the acute process has subsided diathermy may be used and if used at all should be given for thirty minutes every day. In the first stages of a severe illness diathermy will cause increased pain and should not be applied until the most acute part of the process has passed. After about ten days of daily treatments they may be reduced to three times weekly and this continued until function in the shoulder is restored.

X-Ray: Treatment with Roentgen ray has been condemned by some and praised by others. Most roentgenologists believe that it is the treatment of choice. Physicians less confined in their work and observations are inclined to question its value. My own experience has been too limited to express a positive opinion either for or against its use but I have seen no harm come of its use. It is logical to reason that if roentgen rays do accelerate an inflammatory process, as they are supposed to do, some hastening of the absorption of exudates and calcium material about the shoulder should occur. I have refrained from using roentgen rays during the first two or three days when the acuteness of the process is at its height. As soon as the peak of intenseness has passed I usually give it and no patient has so far been worsened. Most of them feel that recovery was more rapid after treatment and such has been my impression. At the first sitting in an acute case about 100 R. is usually given and this repeated every third day for three or four treatments. Dosages vary to some extent with different roentgenologists but their results are about the same. I definitely believe that roentgen ray treatment should be used but never

to the exclusion of other methods.

Surgical Procedures: There was a period some years ago when many physicians believed that calcium filled bursae should be removed surgically. Gradually the wisdom of this method came to be more often questioned than sanctioned. The end results obtained with surgery proved to be no better than those obtained with non-surgical methods. At present it is rare indeed to have to remove a bursa surgically and, when done, it is after other methods have failed and when dense calcified areas can be demonstrated roentgenologically. Compared to surgical removal or opening of a bursa, puncture and aspiration is relatively a simple and easy procedure. At the point of maximum tenderness which was marked during the initial examination a wheal is raised with 2% procaine through a hypodermic needle. This procaine is injected into the surrounding area and into the bursa. Then, using an eighteen gauge sharp, long beveled needle on a 10 cc. syringe, the bursa is sought after. One cannot always obtain material from a bursa but occasionally two or three cc. of cloudy material or rarely pus may be obtained. Whereupon I usually disconnect the needle from the syringe, fill it with 2% procaine and inject it into the bursa. This is followed by multiple needle punctures attempting to place them into the bursa. Theoretically, this breaks up the calcium deposit and/or allows it to escape into the surrounding tissues where it is absorbed and recovery takes place. I have seen no convincing proof that this occurs or hastens recovery. The procedure can be very painful and the effect of procaine last only a few minutes. Seldom do I aspirate or needle one now, although no doubt there is a place for this procedure, especially where very definitely a point of tenderness is present or a distended bursa can actually be palpated. In such cases relief may be dramatic.

Immobilization: At first glance it would seem that since the pain is due to spasm and spasm to movement of the joint, immobilization would solve our problem and thus bring relief. It is not so simple, however. To put a patient who has an acute and painful shoulder in an aeroplane plaster cast would require a general anesthetic and hospital care. The other alternative, a Velpeau bandage, is also unsatisfactory because even though it immobilizes the arm and shoulder to a degree, pain continues just as intense if not worse. The shoulder is so

constructed and arranged as to make it an awkward proposition to encompass when attempting immobilization so complete as to put all the shoulder girdle at rest. After two unsuccessful attempts at relief of pain through immobilization and having several other patients come to me to be released from their cages, I have given up the idea entirely and rely on other methods to lessen the suffering of my patients.

After a period of several days to a week the acute process begins to subside. In from ten days to two weeks slight movements of the arm are possible with little pain. It is impossible to tell how long it may be in any individual case until exercise may be started but the quicker the patient can begin them without too much pain, the sooner will he recover and the better will be his prognosis.

There are numerous ways of obtaining abduction of the arm. The best and simplest of all are the pendulum and circular movements carried out by

having the patient bend forward, allowing both arms to swing as loosely as possible in a circular movement. At first this may be ever so slight but as he gains confidence in the maneuver motion becomes easier. By grasping the ailing wrist with the good hand and holding it at the height of its swing, then straightening up, the average patient will be pleased and surprised at the amount of elevation he can carry out. Persistence will be his key to complete restoration of function.

Summing up briefly the important factors in handling acute shoulder bursitis, I list five things:

1. Drugs—Salicylates and Demerol.
2. Heat—Infra-red.
3. X-Ray therapy.
4. Puncture, multiple, of the bursa.
5. Exercises—Circumduction type.

3417 Memorial Avenue.

Urges Regular Heart Tests for Workers in Industry.

Heart function tests should be employed routinely and regularly by industry. Such tests would further aid in the detection of heart disease in workers whose hearts have appeared to be normal during ordinary clinical examinations, three New York heart specialists stated in the March 8 Journal of the American Medical Association.

In addition to helping to ferret out previously undetected cases of heart and blood vessel disease, which is the leading cause of death in the country today, these tests are needed to evaluate and process disability claims in life insurance and workmen's compensation cases, and to determine the time for retirement of the increasing numbers of aged em-

ployees, they stated.

"Cardiac function tests, therefore, are today at least as vital in industrial medicine as they have been in the past in private practice," according to Drs. Leon Pordy, Arthur M. Master and Kenneth Chesky, of the cardiographic department of Mount Sinai hospital.

The continuing partial disability of workingmen with heart disease is much more important than is the occasional dramatic heart attack, the doctors pointed out, adding:

"From the standpoint of the nation's needs, the physician in industry must assume the responsibility for ferreting out previously undetected cardiac disease from among the employees or executives of his concern."

CARCINOMA OF THE SECOND BREAST— A Case Report

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The development of carcinoma in the second breast after radical removal of the first breast is a manifestation that requires special attention, since statistics show that the disease may appear in the remaining breast at any time during the life span of the patient. Therefore, two distinct problems are presented by appearance of carcinoma in the breast:

1. The individual susceptibility of cancer—i.e., "Cancer diathesis", and
2. The advisability of removal of the second breast prophylactically.

Theoretically, one postulates whether a person developing carcinoma is more likely to be affected again after removal of the first tumor and practically one debates whether the incidence of late metastasis or new growth in the remaining organ is high enough to warrant prophylactic surgical removal of the second breast.

It is well known that 50-75% of breast cancers make their demise within three to five years after the first operation; therefore, the question is raised—which percentage of patients living after 3-5 years will develop carcinoma in the second breast?

The expectancy of carcinoma in the second breast in women living five years or more after the first radical is 7-10%. Thus, the patient is four times more likely to develop cancer in the second breast than the normal woman, of the same age group, is to develop her first tumor.

Dr. Kilgore, in his analysis of 1100 cases of carcinoma of the breast at Johns Hopkins Hospital, showed the following interesting figures:

37 or 3.36% of the cases had bilateral involvement.

13 of the 37 cases had bilateral involvement when seen;

13 of the cases were new growths after the first radical,

and 11 cases were metastatic from the first tumor.

McWilliams calculated that in 5% of women with carcinoma of the breast, it develops in both breasts, occurring simultaneously in .2% and consecutively in 4.7%. It is expected that the incidence of bilateral

involvement will be increased as the thoroughness of the follow up improves.

Perhaps half of the cases of bilateral carcinoma are examples of secondary involvement of the opposite breast late in the course of the disease in patients in whom the operation on the side originally involved failed to completely eradicate the disease locally. The internal mammary lymphatic pathway becomes blocked by metastasis and retrograde permeation of the lymphatics crossing the mid-line carries the carcinoma into the opposite breast. This is a regular event in carcinoma "en cuirasse".

If, however, there are no axillary nodal metastases at the time of the first radical and no evidence of local recurrence, then the second breast cancer is more than likely a new growth.

Miss S. H. C., #50-2836, a white, nulliparous female, 58 years of age, had a supravaginal hysterectomy and appendectomy in 1939 for a leiomyomatous uterus. During May, of 1950, a left radical mastectomy was performed for an intraductal papillary carcinoma without axillary metastasis. The other breast was entirely normal. A course of deep X-ray therapy (6,500 r) was administered and the patient had an uneventful convalescence.

In October, 1950, patient first noted a small nodule in the right breast. A radical mastectomy for the second breast was performed. Pathological report showed it to be an adenocarcinoma with axillary metastasis. A skeletal survey of the patient for possible metastasis has been negative thus far. She has completed a second series of X-ray therapy (5000 r) and has now returned to her normal duties.

In view of the fact that the first tumor was intraductal papillary type without metastasis and in the absence of local recurrence, it is believed that this patient had two distinct carcinomas within a period of six to seven months.

From the surgeon's view point, it is very important to know whether carcinoma of the second breast is a new growth, a metastasis or local extension from the first breast. If the second tumor is a new growth, a second radical is indicated; however, if it is metas-

tatic, this course is impossible and palliative radiation only can be administered. In the absence of evidence of local recurrence, the second tumor should be treated as a new growth.

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New Method of Blood Transfusion Described.

A new and safer method of giving blood transfusions to elderly patients and to other persons with heart diseases and associated disorders was described in the Dec. 22 *J.A.M.A.*. The procedure consists of giving sedimented red blood cells with the patient in a sitting position, instead of whole blood with the patient in a horizontal position.

The frequency of complicating conditions in transfusions led to the development of the technique, according to Drs. Victor Ginsberg, Nathan R. Frank and Richard S. Gubner, of the blood bank and department of medicine of the Kings County Hospital, Brooklyn, N. Y.

"In situations requiring transfusion of large amounts of blood, a practical difficulty is frequently imposed by associated disorders which restrict the ability of the heart to accommodate an increased blood volume," the doctors said.

Under the new procedure, red blood cells are al-

lowed to settle in bottles in a refrigerator for approximately 48 hours. The plasma is then siphoned off with the aid of an empty vacuum bottle, leaving only the necessary red blood cells which are used in the transfusion. The sedimented blood is administered with the use of gravity at an elevation of four feet by means of an 18- or 17- gage needle.

The important advantages of this method include the reduction of the volume of fluid administered by practically one-half, the elimination of three-quarters of the sodium content of the blood, and the averting of the air vesicles and tissues of the lung becoming filled with serous fluid, according to the report.

In certain circumstances where transfusion of a large amount of red blood cells is necessary, a partial exchange transfusion may be performed, the report pointed out. This is accomplished by removal of the patient's whole blood and the replenishing of it by sedimented red cells. Subsequently, the patient's own red blood cells are returned after sedimentation has occurred and the plasma removed.

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.,
State Health Commissioner of Virginia

Rabies

Rabies continues to be a problem of Public Health importance in Virginia. The accompanying Table lists the number of cases of rabies in animals and in man in Virginia since 1938:

CONTROL MEASURES ADVOCATED

1. Licensing of all dogs.
2. Periodic anti-rabies vaccination of all dogs.
3. Collection and destruction of stray and ownerless dogs.

RABIES IN VIRGINIA

Year	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	Jan.-Feb. 1952
Animal -----	55	66	97	54	89	277	334	116	108	162	149	82	94	223	96
Human -----	3	0	0	1	0	1	1	1	1	2	0	0	0	0	0

Although cases of rabies in man are rare as compared to other diseases, it is widespread in animals in the United States, both among domestic and wild animals.

Of the 223 cases of Animal rabies reported in 1951 in Virginia, 115 (51%) were in dogs, 62 (28%) in foxes, 25 in cattle, 18 in cats, and 3 were miscellaneous. Of the 96 cases reported in Virginia in January and February 1952, 50 (52%) were in foxes, 27 (28%) in dogs, 13 in cattle and 6 in cats.

The high incidence of rabies in foxes has largely been concentrated in the counties of northern Virginia. In late January representatives of the Fish and Wildlife Service of the Department of Interior met with health officers and supervisors of the affected counties to plan a concentration program of fox elimination and control. As a result of a bounty system established in several of the counties, bounties have been paid on a sizeable number of both gray and red foxes.

The principal source of danger to man, however, results from the rabid dog and primary efforts should be concentrated on dog control. Dog control measures have proved successful in eradicating rabies in other countries; notably England and Scandinavia, where the disease was once as common as it is in the United States today.

4. Quarantine of dogs when there is an outbreak of rabies in a community.

The present policy of the State Health Department is to encourage the passage of local ordinances for the vaccinating of dogs and the collection and disposal of stray dogs. A difficulty with the promotion and enforcement of the dog vaccination requirements has been the necessity for annual vaccination. With the availability of a new vaccine which gives longer immunity, it is hoped this difficulty will be overcome.

MONTHLY MORBIDITY REPORT OF THE BUREAU OF
COMMUNICABLE DISEASE CONTROL

	Feb. 1952	Feb. 1951	Jan. Feb. 1952	Jan. Feb. 1951
Brucellosis -----	2	2	3	10
Diarrhea and Dysentery ----	329	179	734	442
Diphtheria -----	12	18	22	32
Hepatitis -----	81	1	136	3
Measles -----	1872	940	2816	1482
Meningitis (Meningococcal) .	11	15	29	29
Poliomyelitis -----	2	3	6	11
Rabies in Animals -----	48	13	96	16
Rocky Mt. spotted fever ----	1	0	2	0
Scarlet Fever -----	94	164	175	314
Tularemia -----	9	4	21	15
Typhoid and Paratyphoid ----	6	3	9	13

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.

Commissioner, Department of Mental Hygiene and Hospitals

The Mental Hospital Chaplain*

On September 1, 1951, the Eastern State Hospital at Williamsburg added a trained, full-time chaplain to its therapeutic team. In several hospitals in other states, the value of such a chaplain's work has been amply demonstrated, but it is only recently that in Virginia adequate funds have been made available for filling this position. This development should be of particular interest to the doctors of the state, for it represents an increasing recognition on the part of physicians that religion plays a vital role in health for better or for worse.

The following instance will illustrate the inter-relationship existing between the work of the chaplain and other members of the therapeutic team.

A sixty-one-year-old widow was admitted to our hospital several months ago. The onset of her mental symptoms had been rapid. She heard voices plotting against her, and thought that the noises made by the radiators in her house were designed to drive her away. Depressed, suspicious, apprehensive, and frightened, she had many morbid fears and seemed unable to bear being left alone in her house. She thought that government authorities were after her, that radios had been installed in the neighborhood to listen to what she said, and that people were trying to run her out of her home. She manifested a fear of dying or being killed and made "preparations towards passing on", such as leaving notes for the undertaker and minister. The crying spells which she had since the death of her husband five years previously had increased considerable in recent months. Many of these symptoms were of course suggestive of an involutional psychosis.

At our hospital her admitting physician described her mood as one of depression. Her orientation was good, and answers to questions seemed relevant and coherent. Some ideas of a paranoid nature were still present, but she was not evasive. This physician discovered that the symptoms given above had taken place at about the same time that brown spots, which were described as producing a burning sensation, had appeared all over the patient's legs. The

physician felt that lack of evasiveness and the absence of psychomotor retardation, and the way in which symptoms were recognized as being "unusual", seemed to eliminate the probability of this being an involutional psychosis. The presence of the brown spots on her body, plus a history of having taken medication for hypertension, suggested the possibility of bromide intoxication. Accordingly, on the day after admission a blood study was made, and the blood bromides were reported as being in excess of 175 mg. per 100 cc.

Subsequently the blood bromide was brought down to sixty by forcing fluids and by the administration of sodium chloride. When this patient appeared before staff two months after her admission, she gave no evidence at all of being psychotic, although she recalled her delusions and hallucinations prior to her admission to the hospital.

This woman has had a history of hypertension for the past seven years. At the time of her admission her pressure was 190/130, but within a month it had dropped to 135/75. She received her discharge from the hospital three months after coming here.

What has our religious therapy program to do with a situation of this sort, which seems so obviously a strictly "medical" problem?

Just before leaving the hospital, this woman talked briefly with the chaplain and spoke of "going home . . . not ashamed . . . no longer afraid". She volunteered the opinion that our program of religious therapy had helped considerably in achieving such a point of view. Obviously, "religion" had nothing to do with clearing up the excess bromide in her blood, which seemed the most immediate cause of her psychosis. At the same time it should be noted that the bromide was prescribed for her hypertension. The most plausible explanation of this hypertension is that it had been caused, at least in large measure, by extreme anxiety. Now she reports that she is "no longer afraid", and that the religious therapy program here at the hospital has contributed significantly to that feeling. If this is actually the case, then this program may have been somewhat instrumental in her recovery in the larger sense and may help in preventing a recurrence of her illness.

*Article prepared by Archibald F. Ward, Jr., B.D., Ph.D., Chaplain, Eastern State Hospital, Williamsburg, Virginia.

Now, I should like to discuss some of the details of our program. The work of the chaplain as a member of the therapeutic team includes several areas of operations. Some parts of this work fall in the broad field of group therapy.

Group therapy sessions are currently being held with a limited number of alcoholics—the chaplain is in charge of the men's group, and the clinical director works with the women. A program of this sort with other groups will probably be undertaken later. However, the principal group therapy is our chapel service each Sunday morning. (Worship services are possibly the oldest and, potentially at least, among the most effective forms of group therapy.) What these services aim at, and apparently sometimes accomplish, is to help these people feel and accept the love and mercy of God and to accept themselves and their fellows. In this process we hope to lessen the load of excessive anxiety which many of them carry, make it possible for them to be relieved of inappropriate feelings of guilt and shame, and, in general, learn to face life creatively and constructively.

These services are as non-sectarian as we can make them. The attendance is, of course, on a strictly voluntary basis.

It seems to have been almost entirely through these services and a Communion service that the patient referred to above received her religious help, for I talked with her privately on only two occasions and then rather briefly. One of the occasions was after a morning church service and the other at the time of her discharge. One reason for citing her case is that it demonstrates the kind of religious therapy which is available for all of our patients who are able to leave their wards, even when there is not opportunity or demand for individual conferences.

In addition to these non-sectarian services of worship, the chaplain also coordinates other religious services which are held by volunteer groups in the community. A local priest celebrates Mass once a week for those Catholic patients who wish to attend. The chaplain also arranges for a Jewish rabbi to consult on occasion with patients of that faith, and for local ministers to visit patients who may have religious needs of a denominational nature. It is the chaplain's job to see that the religious needs of the patients are met in the way which will prove most helpful to them.

Another phase of the chaplain's work concerns

conferences with individual patients. Often such therapy is prescribed by one of our physicians. At other times the patients themselves make requests to see the chaplain. This part of the work may be carried on either while the patient is receiving no other treatment, or in conjunction with such treatment as electro-shock or insulin. Sometimes one or two sessions in the chaplain's office or on the ward seem to be sufficient. Other patients have appointments over a longer period of time.

One patient, before coming to the hospital, was obsessed with the idea that the whole world was against her. Some of her friends, she complained, were trying to break her "into little pieces", and were influencing others against her. She would weep in a convulsive fashion, saying that she had lost faith in everyone and had "no reason to live".

This patient came to my attention when our clinical director reported to me that this woman had claimed that she was "cured" on the previous day at the worship service. Even such an exaggeration was worth a follow-up, and I have had four conferences with her since that time.

Apparently what had helped in the worship service was the statement that it is important for us to realize that this is not a perfect world, that we are not perfect people, that our friends are not perfect, and that we do not need to expect to find perfection. This was followed by a statement to the effect that God made a *good* world without making one which was altogether perfect, and that there can be an overall goodness and satisfaction in life though life itself is shot through with imperfection.

This woman's life story is replete with factors culminating in a felt need for perfection. Her father died when she was two years of age, and her mother has been "sickly" since that time, having a number of "spells" in which she would lose consciousness. Discipline was soon put in the hands of her only brother, two years her senior, who would periodically "beat her up", first upon instruction from the mother, and later also on his own initiative. These "beatings" have taken place from childhood up until the very recent past.

It seems to her that the memory of her father and God are "all mixed up together". She remembers her mother looking out of the window at one of the stars and repeating the Scandinavian name for it—translated in English as "Father's Eye". In her

early years all she knew of the Bible was "Honor thy father and thy mother" and "Thou shalt love thy neighbor". Though her father was dead, and in all conscience she could not have much honor for her mother, at the same time she had built up a highly perfectionistic image of her father, which of course clashed severely with what her brother represented as a father substitute in the home.

About five years ago, after her marriage had ended in divorce and her brother had "beaten her up" rather severely, she went on a prolonged spree, but afterwards decided that that was not the way to try to solve her problems. In an attempt to find a more adequate solution, she became interested in a church which laid great stress upon absolutes and perfection. At this time she added to her knowledge of the Bible the often misunderstood statement, "Be ye perfect". Before long she was greatly disappointed in her association with this church group. She believes that her brother has told some of the members something about her past life which she is thoroughly ashamed of but feels is now behind her, and that this knowledge of past events has led to a rejection by members of this church. She finds it extremely difficult to understand how people who "talk so much about the love of God" should be the very ones to hold against her what happened years ago.

She told me recently that she has come to accept the world and the people in it as imperfect and is making progress in realizing that God loves us as we are, regardless of what we have done or do now. She reports also that in learning to accept other people as they are, she is actually able to "like" them better. It would appear that she is making progress. Cer-

tainly her behavior in the hospital is quite different from what was observed before she came here.

A projected part of our program calls for a period of in-service training for theological students and ministers who recognize the need for a psychiatric orientation in trying to help people in trouble. It is anticipated that some of those who are trained at our hospital will themselves become chaplains.

Our entire program aims at meeting the needs of our patients by utilizing as fully as possible the most adequate resources in religion and medicine. At the same time, we are fully aware that even the best which we now know is often not enough. Hence the paramount importance of a program of research even while we are trying to meet the desperate current needs.

Representatives of religion have worked at some human problems at least as long as doctors have. Often grave errors have been made by both groups, especially when they have insisted upon going their separate ways. Socrates' long-standing charge that "the great error of our day in the treatment of the human body" is "that physicians separate the soul from the body" is "that physicians separate the soul from the body" is actually a two-edged sword, for religion has often been as obsessed with "soul" as medicine has with "body". In these present days we recognize increasingly that "the part can never be well unless the whole is well". As the forces of religion and medicine work together, patiently, intelligently, and courageously, as members of one therapeutic team, substance may be added to the dream that a new era of healing is in store for mankind.

MISCELLANEOUS

National Conference On Rural Health

At the request of the Council on Rural Health of the American Medical Association, I presented the Virginia Council on Health and Medical Cares' program to the Seventh National Conference on Rural Health which met in Denver, Colorado the end of February. Our State was one of six invited to present its program. The other States were Colorado, Illinois, Michigan, Missouri and North Carolina. The theme of the conference was "Help Yourself to Health".

I was asked to attend the pre-conference meeting for Rural Health Committees of State Medical Societies, certain Extension Service personnel and a few other health workers. This meeting was concerned specifically with "The Physician as a Citizen" and "The Advantages of Having a Full Time Health Educator". The doctors present stressed the importance of their participating whole-heartedly in health councils and other community efforts. They agreed that in the past too many doctors avoided these activities. The North Carolina Medical Society was complimented on their foresight in adding a trained health educator to their staff. The activities of this person, who works with the doctors and helps communities with their health problems, were described. The Medical Society feels the employment of such a person is an excellent investment in public relations and better health.

The first main address at the conference was given by Dr. John W. Cline, president of the American Medical Association. Dr. Cline urged that we not only try to attract young doctors to settle in rural areas, but that we also concentrate on educating our rural people in proper dietary habits, improved sanitation and immunization, and help them see the need for more hospitals in rural areas. The Virginia Council has already taken action on all of these suggestions.

During the afternoon of the first day the six States presented their programs on the theme of "We Have Helped Ourselves to Health—And How". It was here that I had the honor of telling some of the things we have been doing to bring better health to our people. Again at this conference as at others, I was impressed with the breadth and variety of our programs and projects as compared with other States. Our efforts to help locate physicians in rural areas appeared to be further advanced than those of the other States. We are doing more specific things and are getting more accomplished. Virginia can be very proud of its health program.

During the second and last day of the conference the theme was "These Things We Can Do". Representatives of farm groups, which make up the Advisory Committee to the Council on Rural Health, told us what we, as persons interested in rural health, could do. Here the matter of local responsibility and local initiative was stressed as the best way to gain progress. We were impressed with the fact that we can have anything we want if we are willing to work hard enough for it. As good health is our most prized possession, we should be willing to work for it.

This conference, as the six which have preceded it, was an excellent example of how physicians and laymen get together to discuss and work out health problems common to both groups. The A.M.A. is enthusiastic about what has come out of these meetings, and they see a very bright future for the work of the Council on Rural Health. You may be interested in knowing that next year's conference will be held in Roanoke the end of February.

EDGAR J. FISHER, JR., *Director*

Virginia Council on Health and Medical Care
102 E. Franklin Street
Richmond, Virginia

**WOMAN'S AUXILIARY
TO
THE MEDICAL SOCIETY OF VIRGINIA**

President..... MRS. HERMAN W. FARBER, Petersburg
President-Elect—

MRS. THOS. N. HUNNICUTT, JR., Newport News
Recording Sec'y..... MRS. L. BENJ. SHEPPARD, Richmond
Corresponding Sec'y..... MRS. CARNEY C. PEARCE, Petersburg
Treasurer..... MRS. KALFORD W. HOWARD, Portsmouth
Publication Chairman MRS. ROBT. H. DETWILER, Arlington

Executive Board Meeting

The Mid-Winter board meeting of the Woman's Auxiliary to The Medical Society of Virginia met at The Medical Society of Virginia building on March 5, 1952, at 10 a.m. with Mrs. Herman W. Farber presiding. There were 22 members present.

The officers' and chairmen's reports were accepted as read.

Mrs. J. E. Hamner, a member of the Revisions Committee and chairman pro tem, prepared the report because of the illness of the chairman, Mrs. Decormis. In the absence of Mrs. Hamner, Mrs. F. J. Wright, Sr., presented the revisions which are as follows:

I—MEMBERSHIP: Sec. 3. Take out this section entirely. Put in place of same the following: "Associate membership in this auxiliary may be conferred by the Board of Directors on mothers, unmarried daughters and unmarried sisters of physicians who are members in good standing in The Medical Society of Virginia. Associate members shall be entitled to all the rights and privileges of active members except the right to vote or to hold office."

III—ELECTION OF OFFICERS: Sec 6. After the word Committee at end of first line, insert "one member to be". After the word President in the second line, commencing with the word "at" take out remainder of that line, and through the fourth line, stopping with the word "Chairman". After the word "President" in the second line, insert the following: "and two elected by the Board at the Mid-year Board Meeting."

IV—DUTIES OF OFFICERS: In fourth line change word "confirmation" to "approval" and in same line change words "Board of Directors" to "officers".

VIII—DUES: Sec. 3 (b) take out the words "at-large".

IX—AMENDMENTS: Take out last sentence. Mrs. Wright recommended that the revisions be adopted. This was passed by the Executive Board.

Mrs. Kruger moved that the Executive Board of the Woman's Auxiliary to The Medical Society of Virginia go on record as disapproving the interest on the Jane Todd Crawford Memorial Student Fund and recommended that the interest charged the recipient be discontinued and this be retroactive. Motion carried. Mrs. Reynolds moved that the treasurer be requested to withhold the funds contributed to the Jane Todd Crawford Student Loan Fund until such time as the matter of interest on this fund shall be clarified. Motion carried.

Mrs. R. M. Reynolds, Chairman of Civilian Defense, was invited to attend the conference in Chicago of the Presidents and Presidents-Elect to the Woman's Auxiliary to the A.M.A. and gave a report stressing the points brought out at the conference, that we should enter into political life, civil defense work, Red Cross work in our respective communities, and be sure to vote.

Mrs. Kruger moved that we accept the recommendation which Mrs. Hamner made concerning the past president's pin which is as follows: that a dye be made so that each past president can order her own past president's pin, the cost of the dye to be paid from the auxiliary funds. Motion carried.

Mrs. McCoy moved that the spending of the \$50 which was for the essay contest be left to the discretion of Mrs. Grinels, the chairman of Nurse Recruitment.

Under new business, Mrs. Kruger invited the board members and members of local auxiliaries to visit a Health Pageant which is being held in Norfolk May 9, 10, 11th, at the city auditorium.

Mrs. McCoy moved that we present a gift to the Home of The Medical Society of Virginia, the amount to be spent not to exceed \$35. Motion carried. Mrs. Farber appointed Mrs. Hoge and Mrs. Emlaw to purchase the gift. Mrs. Farber read a letter from Mr. Edgar Fisher, thanking the Auxiliary for the \$50 contribution to be used for the support of the Virginia Council on Health and Medical Care.

Mrs. Farber introduced the speaker, Mrs. Virginia H. Campbell, director of nursing service for the Richmond (City) Department of Public Health, who addressed the board on "What Your Part of Civil Defense Is."

There being no further business, the meeting was adjourned.

HELEN SHEPPARD (MRS. L. B.)
Recording Secretary

Warwick Auxiliary.

At the October meeting, a luncheon was held at Warwick Hotel, Newport News, officers for the coming year installed and the following chairmen named by the president: *Ways and Means*—Mrs. J. W. Carney; *Membership*—Mrs. G. C. Amory; *Legislative-Publicity Relations*—Mrs. T. N. Hunnicutt; *Publicity*—Mrs. V. E. Lascara; *Lucille Hunnicutt Jones Award*—Mrs. J. T. Ransone; *Rolling Library*—Mrs. W. H. Kretz; *To-Day's Health*—Mrs. John Massey, Jr.; *Cancer Control*—Mrs. Russell Buxton; *Bulletin*—Mrs. Louis Richman.

In November, there was a luncheon meeting in conjunction with the Woman's Club of Newport News and the Newport News-Warwick County Tuberculosis Association, at which Mrs. Hunnicutt presided.

The annual bazaar was held at Buxton Hospital in November, proceeds from which are used toward Nurse Recruitment.

On December 19, officers of the Auxiliary entertained members with a Christmas party at the home of Mrs. Wm. A. Read, President.

JOSEPHINE L. LASCARA (MRS. V. E.)
Publicity Chairman.

Norfolk Auxiliary

The Woman's Auxiliary to the Norfolk Medical Society held their annual Valentine Dance in February at the Norfolk Yacht and Country Club, with 225 in attendance.

Mrs. Herman W. Farber, President of the Woman's Auxiliary to The Medical Society of Virginia, and Mrs. Thomas N. Hunnicutt, Jr., President-Elect, will be guests of honor at a luncheon-card party to be held by the Norfolk Woman's Auxiliary on March 25 at the Norfolk Yacht and Country Club.

The Norfolk Medical Society and their Auxiliary are co-sponsoring a Health Pageant, May 9, 10 and 11 at the Norfolk City Auditorium, with 80 health groups participating. They cordially invite any interested persons to attend. For information contact Mrs. Alfred L. Kruger, President, Woman's Auxiliary to the Norfolk Medical Society, 1074 Spotswood Avenue, Norfolk.

BOOK ANNOUNCEMENTS

Penicillin Decade. 1941-1951. Sensitizations and Toxicities. By LAWRENCE WELD SMITH, M.D., Medical Director, Commercial Solvents Corporation, and ANN DOLAN WALKER, R. N., Former editor "Trained Nurse and Hospital Review." Arundel Press, Inc., Washington, D. C. 1951. 122 pages. Price \$2.50.

Standard Nomenclature of Diseases and Operations. Edited by RICHARD J. PLUNKETT, M.D., Editor and ADALINE C. HAYDEN, R.R.L., Associate Editor. 4th Edition. The Blakiston Company, Philadelphia and New York. 1952. 1034 pages with 4 illustrations. Price \$8.00.

From a Doctor's Heart. By EUGENE F. SNYDER, M.D. With a Foreword by Paul Dudley White, M.D. Philosophical Library, New York. xvii-251 pages. Price \$3.75.

Antibiotic Therapy. By HENRY WELCH, Ph.D., Director, Division of Antibiotics, Food and Drug Administration, Federal Security Agency; and CHARLES N. LEWIS, M.D., Medical Officer, Division of Antibiotics, Food and Drug Administration. Foreword by CHESTER S. KEEFER, M.D., Wade Professor of Medicine, Boston University School of Medicine, etc. The Arundel Press, Inc., Washington, D. C. 1951. xiv-562 pages. Price \$10.00.

Directory of Fellowship Awards. For the Years 1917-1950. The Rockefeller Foundation, New York, N. Y. With an Introduction by Chester I. Barnard, President of the Foundation.

Outline of Fundamental Pharmacology. The Mechanics of the Interaction of Chemical and Living Things. By DAVID FIELDING MARSH, Professor and Head of the Department of Pharmacology, West Virginia University School of Medicine. Charles C. Thomas, Springfield, Illinois. 1951. xxxi-219 pages. Price \$6.00.

Biological Antagonism. The Theory of Biological Relativity. By GUSTAV J. MARTIN, Sc.D., Research Director The National Drug Company, Philadelphia. The Blakiston Company, Philadelphia and New York. 1951. xii-516 pages.

Daddy Was A Doctor. By LORENA OWENS. Illustrated by Paul Galdone. 221 pages. E. P. Dutton and Company, Inc., New York. 1951. Price \$2.75.

This is a thoroughly enjoyable story by Lorena Owens, portraying the lives of her father and mother in a small town. Daddy was "one of the best doctors to be found anywhere" and "Mama" tried to be his business manager. The daughter while on a visit home hopes to get the place run on a more orderly basis but, in view of the many funny experiences which arise, she soon finds how impossible it would be to make changes.

The story is entertaining and refreshing.

A.E.

EDITORIAL

Epidemic Influenza-Like Infection

PHYSICIANS each year, at the beginning of the season of colds, flu, grippe and influenza-like upper respiratory infections, have been apprehensive that we might be in for another pandemic of influenza similar to that of 1918. Such waves, at unpredictable intervals, have swept over the world and are the equivalent in severity to the plague of the Middle Ages. The pandemic of influenza of 1918-19 is estimated to have caused the deaths of some twenty million persons—more than were killed in battle on all sides in World War I.

During the present epidemic of influenza-like infection that has swept like wildfire through Virginia families, apparently no community has been spared. Incomplete reports have come from eighty-seven counties of the State.

The epidemic has not been confined to any geographical area of the United States. Its widespread character is indicated by the March 7, 1952 Morbidity Report of the U. S. Public Health Service, which reports outbreaks in such widely separated states as New York, Arkansas, California, Missouri and Kentucky.

Symptoms as noted by reporting physicians have included headache, coryza, sore throat, cough, generalized body aches, chills, fever, nausea and vomiting and in some cases diarrhea.

Symptoms may be limited to the respiratory or gastro-intestinal tract or both systems may be affected at the same time. A common observation has been the precipitate onset of symptoms.

Another characteristic of the present epidemic is the frequency of relapse following the acute stage of illness.

Regarding therapy, physicians have reported that the antibiotics appear to be of little value at the time of onset. When a relapse has occurred, several physicians have noted that in this subsequent period the antibiotics were of value in preventing or lessening the severity of complications.

Laboratory reports from several states indicate that Influenza B virus has been identified in a number of cases. During the outbreak last year Influenza A prime was the virus most implicated in Virginia. Throat washings from school children in Arlington County sick with the prevalent upper respiratory infection were found negative for Influenza A and B.

In a county in southeast Virginia, all ten members of a family had the infection in late February and early March. One child of this family, after apparent recovery, became ill and died. Blood serum from the members of this family have been forwarded to the Virus Laboratory of the U. S. Public Health Service for virus study for identification.

The National Office of Vital Statistics reports no significant rise in the number of deaths from influenza and pneumonia.

Decision as to the use of influenza virus vaccine is a problem for the physician. In 1941, Horsfall found a significant reduction in incidence of the disease in vaccinated over unvaccinated persons. A disappointing feature is the temporary nature of the immunization gained through vaccination. Following subcutaneous administration of influenza vaccine, antibodies begin to appear in approximately a week, reach maximum levels during the second week, remain constant for a month, and then gradually decline

(Hirst). There is no agreement as to the duration of immunity following vaccination.

The argument against the use of Influenza A and B vaccine routinely is the dubious value of using a specific agent until we have convincing evidence as to the specificity of the virus involved in the epidemic.

ALBERT S. McCOWN, M.D., *Director*
Bureau of Communicable Disease Control
Virginia State Health Department

Dr. Thomas Walker, 1715-1794

THE practice of medicine before and just after the Revolution was usually a part time job. In New England, it was combined with preaching or some political office of the town. In Virginia, the doctor-preacher combination was less frequent but farming and politics were ready outlets for the doctor's extra time and energy. Dr. Thomas Walker had so many extra irons in the fire, that it has been questioned whether or not he was a doctor of medicine. He was a surveyor, planter, merchant, importer, explorer, soldier, politician and diplomat, and he made such a name for himself in many of these fields that little has been said of his career as a doctor.

Thomas Walker, the youngest son of Thomas Walker of Walkerton and Susannah Peachey Walker, was born January 25, 1715 in King and Queen County and died in Albemarle, November 9, 1794.

He was the most distinguished member of the clan but his services to the colony and the State have never been fully appreciated.

His biographers all state that after his father's death, which occurred when he was quite young, he became a member of the household of Dr. George Gilmer of Williamsburg where he obtained his first knowledge of medicine and surgery. Whether or not he ever studied abroad is unknown.

It was at this time that he was officially a citizen of Caroline County for in 1727 this part of King and Queen was cut off to form a part of Caroline County and there are many references on Caroline County order books, to Thomas Walker.

In 1741 he married a young widow, Mrs. Nicholas Merriweather, nee Mildred Thornton, who bore him 12 children and brought him 15,000 acres of land in Albemarle County. Here he built his home which he called Castle Hill which still stands and from which he directed his many activities. One of his most notable agricultural contributions was the introduction of the cultivation of the pippin in Albemarle County. Dr. Walker's first wife died November 16, 1778 and he later married her cousin, Elizabeth Thornton, who survived him.

In the meantime momentous things were happening among the Indians to the north and northwest of the mountains—things of great moment to Dr. Walker personally and to the country as a whole. The things for which Dr. Walker is best known fall into this period.

In 1768 he represented Virginia at a conference of the Colonies with the Six Nations at Fort Stanwix which made a treaty by which the Iroquois nation relinquished to the Cherokees the hunting rights to all land south of the Ohio River. Dr. Walker was commissary of the Virginia troops and was present at Braddock's defeat in 1755. In 1774 the Virginia troops under General Lewis defeated decisively the Shawnees at the battle of Point Pleasant. This put an end to the war, sometimes called Lord Dunmore's War. Dr. Walker was present at this battle and helped to make the treaty that followed. This treaty made considerable change in the western boundary. This was Dr.

Walker's last contact with the Indians except that which was incidental to his surveying and exploration.

"On the 12th day of July 1749, the Governor and Council of Virginia granted to the 'Ohio Company' 500,000 acres of land to be surveyed and located south of the Ohio River, and to 46 gentlemen styling themselves the 'Loyal Company', leave to take up and survey 800,000 acres of land in one or more surveys, beginning on the bounds between this State and North Carolina and running toward the westward and to the north seas to include the said quantity, with 4 years time to locate said land and make return of surveys."



Dr. Thomas Walker
of Castle Hill
1715-1794

Courtesy of Mrs. Wellford Reed

His interest in the Loyal Company prompted him to make a survey into Kentucky, which he did in 1750. The diary which he kept on this trip was published by the Filson Society, and establishes the claim that Dr. Walker was the first white man to see and describe this beautiful land. He named the Cumberland Gap, River and Mountains, for the Duke of Cumberland.

Dr. Walker represented Louisa and Albemarle almost continuously in the House of Burgesses from 1758 on and was on most of the pre-Revolutionary Committees, the Committee of Safety, etc. These duties were so numerous that little was said of his medical activities. An early operation of trephine for suppurative osteomyelitis is

mentioned by Ashhurst. He attended Peter Jefferson in his last illness in 1757 and he was the preceptor of George Gilmer, Jr., George Conway Taylor and William Baynham. The dates of the latter's preceptorship were 1764-1769.

We have been unable to locate a portrait of Dr. Walker, but the silhouette, kindly loaned to us by one of his descendants, gives some idea of his features. John Redd (*Reminiscences of Western Virginia 1770-1790*) notes that he was rather under the ordinary size, weighed about 140 pounds, and was round shouldered. "Dr. Walker had the reputation of being a highly educated man and of the very highest order of intellect, and no man bore a more irreproachable character than he did up to the day of his death."

SOCIETY PROCEEDINGS

The Virginia Pediatric Society

Met at Williamsburg, March 1 and 2, with an attendance of nearly one hundred doctors from all sections of the State. Dr. E. L. Kendig of Richmond presided. The papers presented were on timely subjects and most interesting. At the concluding session, Dr. Paul Hogg of Newport News was installed as president. The others serving with him are Dr. T. Stanley Meade of Richmond as vice-president, and Dr. T. J. Humphries of Roanoke who was re-elected as secretary-treasurer.

The Wythe-Bland Medical Society

Met at Wytheville on February 12, at which time they elected the following officers for the ensuing year: President, Dr. C. B. Hughes of Wytheville; vice-president, Dr. W. Randolph Chitwood, also of Wytheville; and secretary-treasurer, Dr. George Kegley of Bland.

The Roanoke Academy of Medicine

Had its regular meeting on March 3, in the auditorium of the new Roanoke Public Health Center. The program included two papers as follows:

The Development of Cataracts Following Electric Shocks by Dr. M. H. Williams, with discussion on the Medical and Neurological Complications

by Drs. W. L. Powell and E. N. Weaver

Some Clinical Aspects of Subdeltoid Bursitis by Dr. C. B. Bray, Jr., discussed by Drs. C. H. Peterson and George S. Maxwell.

Lynchburg Academy of Medicine.

The regular monthly meeting of the Academy was held February 11th at the Lynchburg General Hospital. The meeting was a symposium on "Cough" with Dr. W. H. Barney, Donald Shotton, and a paper prepared by Dr. H. D. Hoskins was read by Dr. Echols.

Dr. Robert Lee Brickhouse was elected as a new member to full membership in the Academy and Dr. T. N. Davis and Dr. Otis L. Watkins were elected to Honorary Membership.

EDWIN A. HARPER, *Secretary*

The Virginia Radiological Society

Will hold its Spring meeting at the Cavalier Hotel, Virginia Beach, on Saturday and Sunday, April 19 and 20. All members of The Medical Society of Virginia and physicians in the Armed Forces are cordially invited.

Dr. J. Lloyd Tabb of Richmond is president and Dr. P. B. Parsons of Norfolk secretary.

NEWS

Scientific Exhibits.

Dr. Eugene L. Lowenberg, Chairman of the Committee on Scientific Exhibits, announces that the Committee will now receive applications for scientific exhibits for the meeting of The Medical Society of Virginia to be held in Richmond, September 28th through October 1st. The deadline for applications will be June 15th. The executive committee will then choose those to be shown and notify the exhibitors by July 1st. This will be necessary because of limited space at disposal for scientific exhibits. Applications should be requested from Dr. Hunter B. Frischkorn, Jr., 1000 West Franklin Street, Richmond 20, Virginia.

Dr. Haake To Address Virginia Academy of General Practice.

When the family physicians in Virginia gather at the Hotel Roanoke May 8-9, for the Second Annual Scientific Assembly of the Virginia Academy of General Practice, they may look forward to an outstanding treat, when Dr. Alfred P. Haake, author, lecturer and consultant to the General Motors Corporation, climaxes the two-day Assembly as the Banquet speaker on Friday night.

Dr. Haake is widely known as a speaker who "interprets, in an entertaining and stimulating manner, and in terms of everyday life, the fundamentals involved in today's complex economic, social and governmental problems". From the inside track of wide personal experience, he KNOWS the full economic picture, three-sided as it is—labor, management and political.

His achievements include preaching, professorships at the University of Wisconsin and Rutgers University, where he received the degree of Ph.D, and a great deal of radio work, in which latter field he was largely instrumental in the building of the well known radio program, "Wake Up America!", on which he has frequently appeared as a speaker. He has been Mayor of Park Ridge, Illinois since April, 1945, is constantly in demand as a speaker and has addressed audiences in practically every State in the Nation.

The GP Wives' Club will hold a luncheon meeting during the Assembly, at which time those officers not elected at the organizational meeting at

Virginia Beach last October, will be elected for the balance of the period (to October, 1952) and plans for the expansion of the organization, the development of a project (other than the customary one of assisting their husbands in the effective discharge of their duties to the Virginia Academy of General Practice) and other routine matters of business will occupy the period of the social-business luncheon. Mrs. Homer Bartley of Roanoke is in charge of the Luncheon and Mrs. E. E. ("Scottie") Haddock, who was elected President of the Club last October, hopes that all wives of General Practitioners in the State of Virginia, who are eligible for membership in the VAGP, will attend the two-day Assembly in May, will be present at the Luncheon and will affiliate with the Club at this Session. The annual dues have been set at \$2.00 per member and, with the confident assurance they can render their husbands and the VAGP a worth while service, it is hoped every GP's wife will have joined the group before the final adjournment of the Assembly.

H.P.S.

The Tri-State Medical Association of the Carolinas and Virginia

Was held at Roanoke, February 18 and 19 under the presidency of Dr. W. R. Wallace of Chester, S. C., and a most interesting program was enjoyed. Dr. James Asa Shield of Richmond succeeded to the presidency and the following officers were elected: President-elect, Dr. Grady Dixon of Ayden, N. C.; vice-presidents, Dr. Paul D. Camp, Richmond, Dr. J. K. Webb, Greenville, S. C., and Dr. A. Burke Suitt, Durham, N. C.; and secretary-treasurer, Dr. R. B. Davis, Greensboro, N. C.

Conference on Infectious Diseases.

The University of Virginia at Charlottesville will hold its third Postgraduate Conference on April 18, the subject being Infectious Diseases. The program will be in McKim Hall, Nursing School Auditorium, and will start at 9:00 a.m., with morning, afternoon and evening sessions. There will be two speakers in addition to members of the University staff—Dr. Harrison F. Flippin, associate professor of Clinical Medicine at the University of Pennsylvania, and Dr. George T. Harrell, Jr., Professor of Medicine at

Bowman Gray School of Medicine, Winston-Salem, North Carolina.

Dr. John A. Martin,

Formerly of Salisbury, N. C., is now associated with Drs. Peterson, Barker and Smith in the practice of Radiology in Roanoke, Virginia. Dr. Martin, a graduate of Jefferson Medical College, served with the Army in the Pacific. Later he completed his Radiological Residency at Hartford Hospital, Hartford, Conn. with graduate training at Peter Bent Brigham Hospital in Boston under Dr. Merrill Sosman.

Tuberculosis — Diagnostic Standards and Classification of:

The ninth edition of the bulletin of the American Trudeau Society provides workable classifications for various phases of TB and simplifies the physician's task in keeping the records which are so necessary in recording the diagnosis, extent of disease, clinical and exercise status. It is available to physicians, free of charge, from their local tuberculosis associations, according to an announcement of the Virginia Tuberculosis Association.

The Virginia Chapter, American College of Chest Physicians,

Will present a scientific program at the Hotel Roanoke, during the afternoon of Wednesday, May 7, 1952.

The officers of the Chapter are: Dr. Dean B. Cole, Richmond; Dr. C. Lydon Harrell, Norfolk; Dr. Charles P. Cake, Arlington; Dr. R. Bryan Grinnan, Norfolk; Dr. M. Foscue Brock, Norfolk.

Dr. Virgil R. May, Jr.,

Of Richmond, became a diplomate of the American Board of Orthopaedic Surgery as of January 1952. He is a graduate of the Medical College of Virginia, class of December 1943, and is associated in practice with Drs. J. B. Dalton and Wm. Minor Deyerle.

News from Virginia Health Department.

Dr. James W. Fullerton has been appointed Health Officer of the Buchanan-Tazewell Health District, effective March 10, 1952.

Dr. C. T. Wilfong

Announces the opening of his office on March 15 at Lee Memorial Medical Building, 1805 Monument

Avenue, Richmond. He will limit his practice to neurology and psychiatry.

American Congress of Physical Medicine.

The 30th annual scientific and clinical session of the Congress will be held on August 25, 26, 27, 28 and 29, 1952 inclusive, at The Roosevelt Hotel, New York, N. Y. All sessions will be open to members of the medical profession in good standing with the American Medical Association.

In addition to the scientific sessions, annual instruction seminars will be held. These lectures will be open to physicians as well as to therapists, who are registered with the American Registry of Physical Therapists or the American Occupational Therapy Association.

Full information may be obtained by writing to the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

1951 Supplement to Reviews of Medical Motion Pictures Now Available

The Committee on Medical Motion Pictures has completed the 1951 supplement to the second revised edition of the booklet entitled "Reviews of Medical Motion Pictures." This supplement contains 90 reviews of medical and health films reviewed in The Journal of the A.M.A. from January 1, 1951, through December 31, 1951. Each film has been indexed according to subject matter. The purpose of these reviews is to provide a brief description and an evaluation of motion pictures which are available to the medical profession.

Complimentary copies will be sent to county medical societies and other medical organizations upon request to Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

Prosthetists and Orthotists Service

A clearinghouse service on *competent, ethical* technicians specializing in braces, limbs, plastic eyes, or facial and body prostheses is being established. Qualified dentists doing obturator work or plastic eyes are included. Information will be available to *all* members of the medical profession on request.

Please assist this NEW service by forwarding names and addresses of qualified technicians and dentists to Academy-International of Medicine, 214 West Sixth St., Topeka, Kansas.

Refresher Course.

A refresher course for medical technologists in Clinical Biochemistry is to be presented at Baylor University College of Medicine, Houston, Texas, by the Department of Biochemistry, August 18-23 inclusive. The plan of the course is lecture, laboratory, conference and demonstration in air conditioned building. Only qualified medical technologists should apply. Details may be secured from Dr. J. H. Gast, Department of Biochemistry, Baylor University College of Medicine, Houston 5, Texas.

Common Cold Conference

The Common Cold Foundation sponsored a conference on the common cold February 13 in Chicago, Illinois. This is probably the first common cold conference ever held in which men of industry, science and medicine discussed this complex disease. Dr. Thomas G. Ward, Associate Professor of Bacteriology at Johns Hopkins University, was guest speaker at the conference and his talk was followed by a panel discussion. More than fifty-five important industries in the Chicago area were represented by their medical directors, personnel, industrial and public relations officers, and industrial nurses.

The Common Cold Foundation is a non-profit, free enterprise and is incorporated under the laws of the State of Illinois. Its purpose is to create and disburse funds for use in developing research and investigation to the end that the common cold and its complications may be more adequately controlled, minimized, or eliminated from our national life.

The executive offices are at 112 East Chestnut Street, Chicago 11, Illinois.

Postgraduate Courses.

The Michael Reese Postgraduate School, Chicago, is offering the following one and two week postgraduate courses in April and May in "Surgery"; "Clinical Dermatology"; "Diseases of the Endocrines"; "Recent Advances in Internal Medicine"; and "Recent Advances in Pediatrics".

For full information, address Dr. Samuel Soskin, Dean, 29th Street and Ellis Avenue, Chicago 16, Illinois.

The Virginia Society of Ophthalmology and Otolaryngology

Will hold its annual meeting at the Ingleside Hotel, Staunton, Saturday, May 3rd, starting at 9:00 a.m. An interesting program has been arranged and Virginia doctors are invited. Dr. Robert H. Courtney, Richmond, is president; and Dr. G. S. Fitz-Hugh, Charlottesville, is secretary-treasurer.

Gift to Arlington Hospital.

The Fairfax County Medical Society, at its March meeting, voted to turn over to the Arlington Hospital as a gift a Series F Government bond, par value \$100.00, owned by the Fairfax Society, to be used toward the building fund for the hospital.

For Sale—

Monument Avenue, Richmond. Doctor's home-office suite of 5 rooms; detached. Southern exposure. Phone owner, 4-3053. (*Adv.*)

Wanted—

One Resident Physician, \$225.00 per month, Two Rotating Interns, \$150.00 per month, 117 bed general hospital, newly opened. Apply in writing, Administrator, Louise Obici Memorial Hospital, Suffolk, Virginia. Appointments will be available July 1, 1952. (*Adv.*)

For Rent—

Fully equipped office, with good supply of drugs, in splendid location for a doctor, in Grayson County near Fries, Galax, Independence and Ivanhoe, from which towns one may draw a large practice. The building is a new duplex-office and living quarters. Formerly owned by a doctor recently deceased. Address "Office" care this journal, 1105 West Franklin Street, Richmond 20, Va. (*Adv.*)

Wanted—

Associate physician (general practice); drawing account plus commission; rapid advancement; twenty miles from Richmond. Write P. O. Box 257, Providence Forge, Va. Phone 541. (*Adv.*)

OBITUARIES

Resolutions on the Death of Dr. B. E. Harrell.

Dr. Bryant Eugene Harrell, prominent urologist, member, and past president of Norfolk County Medical Society died February 12, 1952.

Born in Chatham, Virginia, educated at Randolph-Macon Academy and College, he then spent four years as principal of various high schools, entering Johns Hopkins in 1910. His medical degree in 1914 was followed by two years of general surgery at Jefferson Hospital, Roanoke, and two years at Brady Urological Institute.

He served in the Army in World War I and on the Medical Advisory Board of the Selective Service System in World War II. He began the practice of urology in Norfolk in 1919, was on the Staff of the Norfolk Hospitals and consultant to Naval Hospital, Portsmouth, and belonged to a number of Societies.

WHEREAS, the Profession has sustained a great loss,

BE IT RESOLVED: that we, the members of the Norfolk County Medical Society extend to his family our deepest sympathy.

BE IT FURTHER RESOLVED: that these resolutions be recorded in the minutes and copies sent to the family and the *Virginia Medical Monthly*.

Committee:

FOY VANN, M.D.

J. WARREN WHITE, M.D.

ALLIE D. MORGAN, M.D., *Chairman*.

Dr. Harrell had been a member of The Medical Society of Virginia since 1920. He is survived by his wife and two sons.

Dr. John Catron Phipps,

Prominent physician of southwest Virginia, died February 2. He was sixty-four years of age and a graduate of the Medical College of Virginia in 1916. About two years ago he retired as company physician for the Washington Mills Company, a position he had held since 1924, but maintained an office at his home for private practice and looked after his farm. He served for a time in the Virginia General Assembly and from December 1940 to March 1947 served as a medical examiner for the Selective Service Board for his county. He had been a member of The Medical Society of Virginia for a number of years. His wife and two sons survive him. A brother was Dr. Wayne Phipps of Hopewell.

Dr. William Irvine Owens,

Well known physician of Pulaski, died at a Roanoke Hospital, February 23. He was a graduate of the Medical College of Virginia in 1923, and had been a member of The Medical Society of Virginia since January 1927. His wife, a son and daughter survive him.

Dr. Ernest Rutledge Martin

Of Newport News died January 17 in a local hospital, after having been in bad health for some years. He was seventy-five years of age and a graduate of the Medical College of Virginia in 1899. He was formerly a member of The Medical Society of Virginia. His wife survives him.

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GUEST EDITORIAL

Early Diagnosis of Gastric Carcinoma

WE PHYSICIANS are perhaps justified in our pessimistic outlook regarding gastric cancer. It killed more men during World War II than were lost by direct enemy action. It is now killing more American men than are lost by enemy action in Korea. It is one of the most common cancers in both men and women. Five year survivals in the best clinics are less than 10 per cent. Recurrence is 80 per cent or more in the stump gastric bed and perigastric nodes after subtotal gastrectomy.

However, in the face of the common occurrence of gastro-intestinal carcinoma and its terrific toll of human life, is each of us, as a physician, justified in doing little or nothing about the problem on the basis that there is little hope of improvement? Its very gravity, its prevalence, and its difficulty of early diagnosis constitute a challenge to us to make every effort to improve the outlook on life for victims of stomach cancer. To improve the survival rate by 10 per cent—in other words, to increase it from 10 to 20 per cent—would be a much greater contribution to human life and suffering than to cure 100 per cent of carcinomas of the pancreas or carcinomas of the liver. It would be a greater contribution than to cure all carcinomas of the kidney. This is so, merely because of the great difference in prevalence of the diseases.

There is no question but that radical surgery is the only possible effective treatment for this cancer. However, surgery for cure is futile unless it is applied very early; before metastases and extension beyond the confines of the stomach have taken place. Palliative surgery is necessary for comfort, but does not improve life expectancy.

Therefore, the only answer to our problem is early SUSPICION. Early diagnosis is impossible because there are *no symptoms and signs of early cancer of the stomach*. This should not be confused with *early signs of advanced cancer* which are the signs and symptoms usually described. Early cancer of the stomach rarely or never produces detectable specific signs or symptoms. Therefore, the problem resolves itself into a *search for suspicious evidence* of gastric pathology of almost insignificant importance. It is to be remembered that the gastro-intestinal tract is physiologically outside of our bodies much as is the skin. It is accustomed to the daily trauma of life and it responds paradoxically by easily acquiring the habit of complaint on a psychosomatic basis resulting in functional disturbances, but withstands persistent chronic trauma, which often leads to organic lesions, without producing a sign until the bleeding of deep ulceration, the obstruction of massive growth, or the pain of deep infiltration sounds an alarm, too late.

The urgent question which faces us is, how we physicians may contribute most effectively in surveying the population to discover those individuals who have *suspicious evidences* of trouble in the stomach. Obviously, it means careful examination and questioning of many individuals who are not cognizant of gastric abnormality. Clinics and detection centers have been found inadequate and inefficient for many reasons including the difficulty of obtaining proper staff for these centers, the drudgery of routine

examination of more or less normal individuals, and of most importance, the unfamiliarity of these professional "strangers" with the individual patients. The practicing physician knows many of his patients and neighbors well enough to evaluate early complaints and slight symptoms and can do a much more effective job of differentiating between the functional disturbances with which he is so familiar and the more recent changes of habit, or acquisition of suspicious signs than can his colleague, who has no previous experience with the patient on which to base clinical judgment.*

An adequate program for a *search of suspicious* stomach abnormalities depends on examination of patients by their own doctor, and upon the willingness of every physician to participate actively in this "hunt". This is not as impossible a program as it may first appear. It can be done. It involves slight changes in attitude of mind and habits of practice. Each one of us must be not only cancer conscious but *alert to the importance of presumably insignificant signs and symptoms* which may only point suspicion at the stomach. We must be willing to increase our effort in periodically examining patients who present themselves in our offices not only for the presenting complaint, but to take the few moments necessary to question them concerning their stomach habits and perhaps to inquire about any change in the nature of their stools, and to examine their abdomen for evidence of slight abnormality.

To include the entire population of any given community would be impossible and is unnecessary. It is useless to search for evidence of gastric lesions in a child or a young adult. Although cancer does rarely occur in younger age groups, it is only common after the age of 45 and its prevalence increases rapidly as age advances. Therefore, the persons who should be questioned and examined can be narrowed down to a first group of 45 years and older, and, as one progresses with questioning and examination, the number of patients who need the next indicated procedure becomes smaller and smaller so that the physician's time and energy are conserved and yet his patient group is adequately covered. These persons of the limited age group should be carefully although quickly questioned concerning any *recent* onset of vague gastric uneasiness, a feeling of unusual fullness after eating which they did not note previously, or a slight indigestion and perhaps a loss of the desire to eat as much as they formerly did. Examination may elicit a slight sense of fullness or firmness in the epigastrium. There may be unexplained pallor which has occurred during the past few months. The patient may admit that he fatigues more easily than he had up to a few weeks or months previously. Such symptoms or signs are most important in their *index of suspicion* for trouble in the stomach if they are of more recent occurrence. In this regard, it is important that the examining physician be familiar with the patient's past history.

All this first group are entitled to a blood smear examination and hemoglobin determination for evidence of slight anemia. Any unexplained mild anemia, particularly of the macrocytic type, is a definite *suspicious sign*. The group now can be reduced considerably and further examination limited to the second category, those who have aroused suspicion on the part of the physician because of a complaint, slight anemia, or a physical finding which is unexplained. These patients must be submitted to a gastric analysis with examination of the cellular washings from the stomach and to gastrointestinal x-ray examination. Low or absent free acid after histamine is definitely suspicious of possible tumor. Gastric cytology has been found to be of little use unless it is obtained after the stomach has been thoroughly washed out and by far the best

*The physicians of Hillsdale County, Michigan, have developed and operated a very satisfactory cooperative periodic cancer detection plan for several years. See: The Hillsdale Plan for Tumor Detection; J. Mich. State Med. Soc. **48:445** (1949).

results in diagnosis have been reported by Panico, Papanicolaou and Cooper*, who have introduced the method of balloon abrasive aspiration of material from the stomach. A small collapsed balloon secured around an ordinary Rehfuß tube is introduced into the stomach and inflated to the diameter of the stomach. After thoroughly washing out the gastric contents, peristaltic activity is permitted to move the balloon to the pylorus. It is then withdrawn to the cardia and the procedure repeated four or five times. The balloon is then collapsed (permit escape of the air), withdrawn and washed in a beaker of saline. The washings are centrifuged and the button of cells prepared for examination either by paraffin infiltration and staining of sections, or by preparation of stained smears. In three years of experience with this method in New York Hospital†, Cooper reports a high correlation of positive findings permitting correct diagnosis before surgery. It is hoped that this procedure will become widely available in the near future because it certainly constitutes a great step forward in the early diagnosis of gastric lesions at a minimum of discomfort to the patient.

One must not be satisfied with a report from the radiologist of "no evidence of gastric cancer or obstruction". Remember that obstruction and shadow evidence of gastric cancer occur *late*. The x-ray fails to reveal a small lesion unless it is significantly ulcerated, fungated or happens to appear on the silhouette margin of the picture. The suspicious signs which you must ask your radiologist to report are those of thickening or hypertrophy of the rugae or decreased or asymmetric peristaltic activity of the different portions of the stomach. We have seen a patient whose only complaint was slight indigestion and whose repeated gastrointestinal x-ray examinations were negative except for "slight delay in gastric peristalsis and moderate hypertrophy of the rugae" for a period of six months at which time the symptoms were definite. Diagnosis of carcinoma of the stomach was readily made by x-ray and the patient was found inoperable. Exploration at the time of the first report of slight changes in the function and structure of the stomach might have resulted in successful radical removal.

With these examinations, positive findings have narrowed the group of patients to a small number for whom a *high suspicion* of gastric carcinoma must be entertained. Other studies may be done such as blood protein and AG ratio which occasionally reveal some disturbance but should not be relied upon for diagnosis. Blood protein changes often occur late in gastric carcinoma. The vitamin A level of the blood has been reported low in gastric carcinoma but again this is often quite late in occurrence and the procedure for determining the vitamin A level is difficult and not available in the ordinary clinical laboratory. Therefore the best approach when definite suspicion of gastric lesion has been established (by the above procedures) is clinical and one should consider the patient deserving of exploratory surgery. Only the microscope will reveal the nature of the lesion. Patients with diagnosis of gastric ulcer in this age group if not definitely and markedly improved by medical treatment in a period of three weeks should also be explored. Sometimes the peptic ulcer turns out to be carcinoma.

For patients who are under treatment with a diagnosis of pernicious anemia, the *suspicion index* for gastric carcinoma must be multiplied tenfold and they must be watched closely for signs of trouble in the stomach and operated immediately. Delay is disastrous.

At exploratory surgery, small lesions are easily missed. If the index of suspicion

*Frederick G. Panico, George N. Papanicolaou and William A. Cooper: J.A.M.A. **143**, 1308 (1950)

†William A. Cooper. Reported at annual meetings, American Cancer Society, November, 1951.

is sufficient for exploration, the patient then is entitled to *a look inside of the stomach*. Never be satisfied with a quick palpation. *Biopsy every abnormal area of the mucosa*.

Although there is certain skepticism found in our medical literature regarding successful surgery for gastric cancer even when applied relatively early, there is insufficient evidence to justify neglect. It seems reasonable to believe that the earlier the lesion can be completely and radically removed, the more chance the *individual patient* has of survival and the more chance, we, as a profession, have of increasing our survival rate for five years for under 10 per cent to much higher figures. Let us remember that each patient is entitled to the opportunity of being *the one* who may survive without recurrence or metastasis though the overall figure may be low statistically.

GEORGE ZUR WILLIAMS, M.D.

Editor's Note—Dr. Williams is Professor of Pathology and Director of the Department of Oncology at the Medical College of Virginia, Richmond.

ANNUAL MEETING
THE MEDICAL SOCIETY OF VIRGINIA
AT
RICHMOND, VIRGINIA
SEPTEMBER 28-29-30—OCTOBER 1, 1952

ABDOMINAL TUBERCULOSIS WITHOUT EVIDENT
TUBERCULOSIS OF THE LUNGS†

ERNEST S. ROBERTS, M.D.,*

and

HARRY NUSHAN, M.D.,**

Kecoughtan, Virginia

The subject of this presentation is tuberculosis of the abdomen in which there is no evident tuberculous lesion in the lungs. This would include tuberculosis of the gastro-intestinal tract and peritoneum. It is evident that we cannot possibly cover the entire subject in the time allotted to us. We will only speak briefly of involvement of the G.I. tract.

Tuberculosis is a disease of antiquity. Hippocrates was aware that diarrhea in the terminal stages of phthisis was an ominous omen. The modern study of abdominal tuberculosis began with Rokitsansky who in 1849 described tuberculous enterocolitis. In 1884 Koenig described tuberculous peritonitis and followed patients clinically¹.

Tuberculosis may involve any part of the gastro-intestinal tract, but the most common location is the ileocecal junction in 85% of the reported cases. Proximal and distal involvement from this point occur with proportionately decreasing incidence. It is stated that the incidence of intestinal tuberculosis in patients dying of tuberculosis is 60-90%. Blumberg in a study of pulmonary tuberculosis found x-ray evidence of bowel tuberculosis in 5-8% of early cases; 14-18% of moderately advanced; and in 70-80% of far advanced pulmonary tuberculosis². Bockus² divided the disease into two main types:

1. Secondary ulcerative type, which is secondary to active pulmonary tuberculosis and is characterized by ulceration. A primary type was described in children during the first three decades of this century and was more common in England and Scotland. Ulcers may be longitudinal or circular. Healing occurs by fibrosis and at times with stenosis. Per-

foration with localized peritonitis may occur. The symptoms may be the same as those found in tuberculous peritonitis.

2. Hypertrophic or hyperplastic type occurs in the absence of pulmonary tuberculosis in 70% of cases (Davis)². It was believed that the organism was an attenuated bovine strain. It is a very rare disease. An elongated tumor is formed in the ileocecal region. There is no ulceration. Symptoms are those of obstruction with a palpable tumor.

X-ray examination of the bowel in both of these types would reveal abnormalities, which, however, are not pathognomonic.

Lichtman³ describes two forms of tuberculous infection of the liver, both of which are secondary to ulcerative intestinal tuberculosis in a great percentage of cases:

1. Generalized—miliary, as a part of a hematogenous dissemination. Infection occurs by way of the hepatic artery. The tubercles may heal and calcify.

2. Localized—tuberculomata or abscesses. These may be solitary or multiple. Infection occurs by way of the portal vein. Caseation and encapsulation may occur. In both these forms the liver may be enlarged and tender, but jaundice is rare.

There has been a steady decrease in the morbidity and mortality of all forms of tuberculosis in this country in the past fifty years. In 1900, it was 197 per 100,000, while in 1948, it was 30 per 100,000. Large series of routine autopsies have shown an incidence of tuberculous peritonitis in from 2.7 to 5.3 per cent⁴. Of the total tuberculosis deaths in 1948, 92.2 per cent were from tuberculosis of the respiratory tract and 7.8 per cent from the non-respiratory forms of the disease⁴. Edwards and Drolet⁵, however, state that there was a widening gap between tuberculosis morbidity and mortality in this country between 1940 and 1947. Whereas the number of deaths decreased from 60,428 to 48,064, the number of new cases reported rose from 100,772 to 133,837. Tuberculosis has not been eliminated as a major cause

Reviewed in the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are the result of their own study and do not necessarily reflect the opinion and policy of the Veterans Administration.

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†Read in part at the annual meeting of the Medical Society of Virginia, at Virginia Beach, October 7-10, 1951.

of disability and death. It has been estimated that 20,000,000 people throughout the world are afflicted with this disease.

Milk from tuberculous cattle has in the past been a source of infection of the intestinal tract. Mayo⁶ in 1929 stated that the bovine type was responsible for 25 per cent of tuberculous peritonitis in children. Auerbach⁷ in postmortem examinations in a tuberculosis hospital found 90 instances of tuberculous peritonitis. He found that one-third of the cases had active tuberculosis of some portion of the urogenital tract and in another 25 per cent there was an association with skeletal tuberculosis. In some cases the origin of infection was difficult to explain.

Tuberculous peritonitis is more often found in the young to middle life, but no age is immune. The Negro race and females appear to be more susceptible. Primary tuberculous peritonitis has been described, but it appears to be only a remote possibility. The primary focus is usually an ulcerated bowel, an involved appendix, an infected fallopian tube, or a caseous retroperitoneal node. Peritonitis in these cases occurs by direct extension through the peritoneal membrane. A more distant organ as cervical lymph nodes, lungs, or joints may serve as the primary focus. Dissemination to the peritoneum may be by contiguity, by lymphatics, and by the blood stream (as part of a generalized spread). Three types have been described¹: (1) Ascitic; (2) Adhesive; (3) Caseous.

In the earliest stages of spread to the peritoneum, numerous nodules 1 mm. in diameter or less are scattered over the entire peritoneal surface. There is an outpouring of peritoneal fluid with a specific gravity of 1.018 to 1.024. The amount of the fluid is small when compared to the ascites in cirrhosis of the liver. As the disease progresses, it may become an adhesive type with many agglutinated loops of intestine and omentum that form large masses. Actual obstruction of the bowel may occur. Another type of disease that may develop is a destructive caseous process. Caseous masses form and ulcerate with the development of intestinal fistulae. Any combination of the early exudative, the fibrous, and the caseous types may occur. The disease may not progress to the extensive fibrous or caseous type, but after a period the condition may slowly subside and the patient recover. Auerbach⁷ quotes Lindner, Stubenbord and Spies, who reported cases of extensive, proven, peri-

toneal tuberculosis which without specific therapy showed fibrous thickening of the serosal surface but no evidence of tuberculosis on subsequent operation or autopsy. The mortality rate is unknown because the diagnosis is too often not suspected.

The symptoms of peritoneal tuberculosis are varied. The disease is usually characterized by a slow and insidious onset. At first, there is a vague sense of fullness or abdominal discomfort which may be intermittent. Later, there is definite distention and pain. The patient feels weak, runs an occasional low grade temperature, and may have diarrhea. Examination will probably show slight distention, shifting dullness, and abdominal tenderness. As the disease progresses, the symptoms and findings increase. The patient loses weight and strength, becomes anemic, and a chronic invalid. The onset may be acute with a high temperature, nausea, vomiting, abdominal distention and pain. These findings may lead to a diagnosis of appendicitis, cholecystitis or intestinal obstruction. An asymptomatic hernia which a patient may have had for many years becomes thickened, painful and difficult to reduce.

If the patient has pulmonary tuberculosis, or tuberculosis elsewhere, and abdominal symptoms ensue, the true diagnosis is often made. However, where no demonstrable tuberculosis is present the diagnosis is often not made. Those patients who have symptoms of acute appendicitis or of strangulation of a hernia which requires early surgery are more fortunate because of early diagnosis. Too often exhaustive studies are made to rule out other conditions. Even if shifting fluid is found in the abdomen, it may be difficult to demonstrate the acid fast bacilli by culture and guinea pig inoculation. In the event that either would become positive, there would be the additional wait of several weeks before the diagnosis is definitely established, during which time the disease would continue to progress. From 1947 to 1950, inclusive, two case records were studied in the weekly clinico-pathological exercises at the Massachusetts General Hospital^{8,9} in which the patient had abdominal tuberculosis. In both cases, the discussor had reason to mention tuberculosis of an abdominal organ as the possible diagnosis. One of their cases, as one presented today (SLM, Case 5), had cirrhosis of the liver with ascites. These cases had in common ascitic fluid with a low specific gravity, containing many red and white blood cells

which were predominantly lymphocytes. It was pointed out in their discussion that there had been two cases with the same picture previously presented. The discussor in each case ruled out abdominal tuberculosis because there was no active pulmonary tuberculosis shown by x-ray or clinical findings.

Before the advent of specific therapy, it was believed that just opening the abdomen and allowing air to enter the abdominal cavity was all that was needed and could be done to hasten recovery. It is true that some cases did recover, but it is doubtful whether recovery would not have occurred spontaneously. The discovery of Streptomycin and PAS has been a milestone in the treatment of all forms of tuberculosis. Kallqvist¹⁰ treated 22 cases of intestinal tuberculosis secondary to pulmonary tuberculosis with PAS. He found complete x-ray remission in 10 cases and considerable improvement in seven. After 8 to 16 months from commencement of therapy, thirteen were symptom-free and three had only mild discomfort. Sweany *et al.*¹¹ treated tuberculous enterocolitis with Streptomycin. There was marked and rapid control of symptoms, although there was only slight improvement on x-ray examination. Several cases relapsed in a few months. Woodbury and Phillips¹² treated a case of acute obstructive tuberculous enterocolitis with nonsurgical ileostomy and Streptomycin with good results. The Veterans Administration Streptomycin Committee advises that combined therapy (Streptomycin and PAS) be used in these cases.

CASE REPORTS

CASE 1. J.A.P., Negro male, aged 24, plumber, was admitted to the hospital on September 6, 1947. He stated he had been ill for four days with pain in the right lower abdomen. There had been no vomiting and his bowels had moved daily. There was no family history of tuberculosis. Physical examination revealed a well developed, well nourished individual, whose height was 69 inches, weight 103 pounds, blood pressure 120/70, temp. 99.4 degrees, P. 94, and R. 20. The abdomen showed tenderness, rebound tenderness and rigidity in the right lower quadrant, more about the umbilicus. Rectal examination revealed slight tenderness on the left side. Urinalysis was negative. Complete blood count gave the following: R.b.c., 4,990,000; Hb., 94%; w.b.c., 15,800; polymorphonuclears, 89%. STS showed

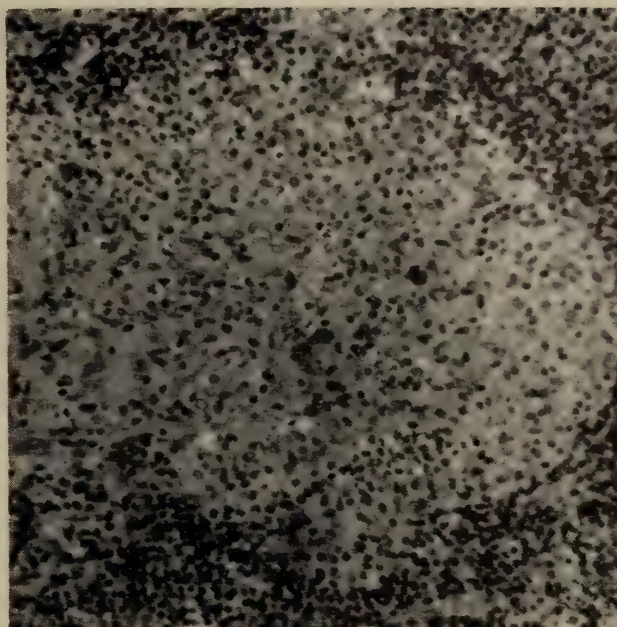


Fig. 1, Case 1.—Photomicrograph of a non-caseous tubercle in the submucosa of the appendix showing epithelioid cells and Langhan's giant cells.

a low titered positive Kahn and Wassermann reaction. X-ray of the chest was negative. He was operated on September 6, 1947. Upon opening the peritoneum, there was found an increased amount of muddy fluid which had no odor. The appendix was tense and enlarged. Its entire length and the midportion was densely bound down by adhesions. The wall of the midportion was very thin and friable. The entire appendix was covered by a fibrinous exudate, as was the serosa of the adjacent ileum and cecum. There was no perforation. The usual appendectomy was performed and the stump inverted. His temperature was elevated to 102 degrees on September 7th and 8th. The wound healed by primary intention and he made an uneventful recovery. He received 6,000,000 units of penicillin because of the doubtfully positive serology. Sections of the excised appendix showed numerous tubercles containing epithelioid cells, Langhan's giant cells, and central breakdown. These were present in the mucosa, submucosa, muscularis, and serosa. There was abscess formation in the submucosa. He signed out against medical advice on October 5, 1947. He has not been located to date.

CASE 2. M.B., Negro male, aged 59, laborer, was admitted to the hospital from the domiciliary on February 13, 1948, complaining of swelling of the ankles, shortness of breath, and occasional chest pain. He had had a chancre in 1914 and had re-

ceived 10 "shots" in the arm "for his blood" in 1920 or 1921. He was admitted to the domiciliary in April, 1938, at which time a systolic murmur was heard at the base of the heart with no radiation. His blood pressure was 126/62. An x-ray of the chest was interpreted as showing cardiac hypertrophy and aortic dilatation. EKG showed left axis deviation. STS showed a 1 plus Kahn and a negative Wassermann. In 1941 he began to complain of substernal pain and in 1943 a diastolic murmur was noticed at the aortic area. In March, 1947, he developed ankle edema and a dry hacking cough. He was admitted to the hospital in April, 1947. Physical examination revealed a poorly nourished individual. There were sclerotic changes in the fundi. There was a pleural rub at the right base. Blood pressure was 120/64, and pulse was 80. The heart was markedly enlarged, and harsh systolic and diastolic aortic murmurs were heard. X-ray of the chest showed slight mottling at the right base. Sedimentation rate was normal, complete blood count was normal, STS was negative, and sputum examinations for acid fast bacilli were negative. Urinalysis showed a trace of albumin. EKG showed a left ventricular strain pattern. He ran an elevated temperature (100.6 to 101.6 degrees) for 3 days. Therapy consisted of penicillin I.M. (2,800,000 units) for an upper respiratory infection, and digitalization. He was discharged in 37 days. He returned to the hospital in one month because of ankle edema, shortness of breath, and abdominal tenderness. Examination revealed rales at the base of both lungs. The liver was enlarged and tender, and there was pitting edema of the legs and feet. X-ray of the chest revealed moderate mottling of the lower two-thirds of the right lung. STS showed a 2-plus Kahn and a negative Wassermann. This was repeated and showed a 3-plus Kahn and a 2-plus Wassermann. Spinal fluid examination was entirely negative. Therapy consisted of 6,000,000 units of penicillin, digitalization, and diuretics. He was discharged to the domiciliary after a hospital stay of 66 days. The final admission occurred on February 13, 1948, because of ankle edema, shortness of breath, and chest pain. Blood pressure was 160/40, and the pulse was 56. Physical examination was otherwise essentially unchanged. X-ray of the chest showed the bronchovesicular markings to be mildly accentuated, and the heart was greatly

dilated to the right and left. CBC and sedimentation rate was normal and STS was negative. NPN varied from 35 to 56. Total protein was 5.2 with an A/G of 1.1. Urinalysis revealed albumin and granular casts. His temperature on February 14th, 15th, and 17th was 99.6 to 100 degrees. Elevations between 99 to 100 degrees occurred on April 24th, 25th, and 26th. Therapy consisted of a maintenance dose of digitalis, proteins, salt free diet, fluids, and diuretics. The edema gradually increased and his condition deteriorated. He died on April 26, 1948. Pertinent autopsy findings were as follows: The left parietal pleura was totally adherent to the chest wall and to the diaphragm. The heart was flabby and markedly dilated. There was a laminated thrombus in the left auricle. The aortic valve was slightly thickened and irregular. There was some constriction of the orifice of the right main coronary artery. The ascending aorta showed extensive tree barking and atherosclerosis. On microscopic examination, there was chronic passive congestion of the left lung, liver, spleen, and kidneys. A few small tubercles showing central caseation were seen in the lungs; many more were seen in the substance of the liver and spleen.

CASE 3. L.G., Negro male, aged 22, laborer, was admitted to this hospital on February 25, 1948. On January 6, 1948, he developed pain below the umbilicus. One to two hours later he was admitted to a hospital in Norfolk, Virginia, where an appendectomy was performed. It was stated that peritonitis was present at that time. Additional questioning revealed that the patient had not been feeling well for 2 to 3 weeks prior to this, although he had continued working. He had been having a "heavy feeling" in his stomach and had 2 or 3 bowel movements in the morning and 2 or 3 at night. They were not diarrheal and contained neither blood nor pus. Post-operatively, he developed fecal fistulae. He began to lose weight and strength rapidly. Because of bleeding from one of the fistulae, he was explored. Multiple perforations of the gut with leakage into the peritoneal cavity were found. These perforations were closed. A third operation was performed later in which the jejunum was anastomosed to the colon. There was no history of tuberculosis in the family. On admission to this hospital, he was emaciated, bed-ridden, and chronically ill. Height was 69 inches, weight 110 pounds (be-

fore illness, 162), blood pressure 122/100, temp. 98.8 degrees, P. 84, and R. 20. The abdomen was scaphoid and there was a recent right lower paramedian incision with sutures in place. The lower part of the incision was open widely, and the abdominal wall was absent over a broad area (5 x 3 inches) extending into the right lower quadrant. There was considerable undermining in the right superior border. The bowel emptied on the left side through the jejunal fistula. Just below this another opening was present. This was seen to empty a small amount of feces. In the middle and on the right side there were two other openings which did not contain feces. Palpation of the intestines showed thickening. The abdominal wall was excoriated from the irritating feces. Admission complete blood count revealed the following: R.b.c., 4,510,000; Hb., 14 gms.; w.b.c., 10,600; 78% polymorphonuclears. Urinalysis showed albumin 1-plus, w.b.c., hyaline and granular casts. STS was negative. Culture of pus from the abdominal sinuses revealed B. Coli. X-ray of the chest was negative. He ran an irregular temperature, reaching at times to 100 degrees. On March 4th, an exploratory operation was performed through a supraumbilical transverse incision. The intestines were completely matted together with adhesions and the serosal surfaces were studded with tubercles the size of pinheads, many of which had become confluent. The jejunum was cut and anastomosed to the side of the transverse colon. Biopsy of the peritoneum and a caseous nodule revealed tubercles with central caseation, epithelioid cells, round cells, and Langhan's cells. The acid fast stain was positive. Following operation, he was placed on Streptomycin therapy, which was continued until his death. He showed temporary improvement, but on April 20th, he began to complain of headaches. Spinal fluid examination revealed findings compatible with tuberculous meningitis. In spite of intensification of Streptomycin therapy I.M. along with intraspinal and cisternal magnal Streptomycin therapy, his general condition deteriorated, and he expired on May 15, 1948.

CASE 4. S.H., Negro male, aged 25, student, was admitted to the hospital on April 20, 1949, as a transfer from a hospital in Norfolk, Virginia. He had been shot several times on April 14th, and was operated on shortly thereafter. Multiple penetrating wounds of the jejunum and ileum and one of

the descending colon were noted. There was no statement in the transfer note as to the repair of the wounds. In addition, there were gunshot wounds of the left suprapubic region, left upper thigh, right iliac crest, and right buttock. Therapy consisted of suction, blood transfusions, fluids, penicillin, sulfadiazine, and streptomycin. He was received in this hospital in a state of shock; blood pressure was 120/108. The abdomen presented a midline incision, at the lower extremity of which was a sinus opening which drained moderately of seropurulent fluid which did not have the odor of urine or feces. Temp. was 103 degrees, P. 130, and R. 26. Complete blood count showed the following: R.b.c., 2,600,000; Hb., 39%; w.b.c., 16,200. Urinalysis showed 2-plus albumin. The NPN was 32. STS was negative. On April 22nd, the w.b.c. was 35,100 and the polymorphonuclears were 93%. A flat film of the abdomen on admission was negative. He continued to run an elevated temperature between 100 and 102 degrees in spite of blood transfusions, fluids, proteins, vitamins, suction, and penicillin. A flat film of the abdomen on April 27th revealed a pocket of gas below the liver. However, an oblique view failed to reveal this pocket. An x-ray of the chest on the same day showed a mild pleural reaction in the right costophrenic angle and haziness in the right mid-lung field and in the left upper lobe. This was interpreted as showing inflammatory disease. He then began to complain of a severe pain in the plantar surface of the right foot. Numerous blood counts revealed a consistent leucocytosis ranging as high as 49,500. On May 17th a laparotomy was performed. The following were found: A right subdiaphragmatic abscess, a hard indurated inflammatory mass in the hollow of the sacrum, and multiple intra-abdominal abscesses. The abscesses were drained. On June 2nd, he presented symptoms of intestinal obstruction, and a flat film of the abdomen revealed multiple fluid levels. On June 3rd, he was operated on and a prolonged procedure was necessary to release many inflammatory adhesions and evacuate contents of many small abscesses between loops of gut. At one point, the wall of the small bowel was adherent to the posterior abdominal wall and separation revealed it to have perforated. The abscess in the right upper quadrant was the largest and had a fecal odor. A few white nodules were noted on the peritoneum. The biopsy report of these were

foreign body reaction with tuberculosis not entirely ruled out (acid fast bacilli could not be demonstrated). He developed a small intestinal fecal fistula and his condition began to deteriorate. He became comatose on June 27th and died on June 28th. Pertinent findings at autopsy were: The peritoneal cavity was completely obliterated with loops of bowel and abdominal viscera all densely adherent to each other. Some loops of bowel were adherent to the upper abdominal scar. Fistulae and numerous abscesses were present. In many areas small tubercles were present which on section showed caseation necrosis. The right lung in the upper portion of the lower lobe showed a wedge-shaped area of infarction. There was a 2 cm. ragged, thin-walled cavity in the left upper lobe showing caseation necrosis and numerous acid fast bacilli. The lymph node showed caseous tubercles with no organisms.

CASE 5. S.L.M., white male, aged 55, farmer, was admitted to this hospital on July 19, 1949, complaining of fever of five days' duration, ranging as high as 104 degrees. He had a slight non-productive cough of two days' duration. He had had pain under the left costal margin for 20 years. He was first admitted to this hospital in August, 1943, because of fever of 7 weeks' duration associated with generalized weakness, muscular aching, and anorexia. On physical examination his chest was barrel-shaped and hyperresonant. His liver and spleen were enlarged. Complete blood count, urinalysis, and STS and agglutinations for Brucella, typhoid, and paratyphoid were all within normal limits. X-ray of the chest revealed slight pulmonary emphysema. His temperature spiked daily for four weeks. He was discharged after 40 days with a diagnosis of chronic brucellosis. He returned to the hospital in January, 1945, complaining of fever, chills, and aching in the neck, ankles, knees and hips. He had gained 31 pounds since 1943. The spleen and liver were not palpable. Laboratory studies revealed a normal r.b.c. with 9.0 gms. of hemoglobin; urinalysis was normal; Widal and agglutinations for Brucella were negative. Five sputum examinations were negative for acid fast bacilli, and x-ray of the chest was reported as normal. He was afebrile during his 16-day stay in the hospital. He returned to the hospital in February, 1947, because of an acute upper respiratory infection of 3 weeks' duration with persisting hoarseness and dry cough. Blood streaked

sputum was present on one occasion. Physical examination was essentially negative. Laboratory studies revealed a normal blood count. Urinalysis revealed a trace of albumin, a few w.b.c., and 20-25 r.b.c. Urine sediment showed no acid fast bacteria on smear and culture. Sputa were likewise negative. X-ray of the chest was negative. He ran a low grade temperature for 3 days and his hoarseness diminished. He was discharged after a hospital stay of 23 days with a diagnosis of tracheitis and laryngitis. Physical examination on the final admission (July 19, 1949) showed a well nourished individual, with rapid respirations, flushed face, and weight 175 pounds (a further gain of 3 lbs. since 1947). A pericardial friction rub was present at the apex. The abdomen was considerably distended by gas. Blood pressure was 126/76, and temp. was 103 degrees, P. 120, and R. 26. Admission blood count showed the following: R.b.c., 3,720,000; Hb, 11 gms.; w.b.c., 20,000 with 90% polymorphonuclears. Several repeat blood counts revealed a normal w.b.c. and a normal differential. His NPN was 60, the TP was 5.7 with an A/G ratio of 0.9. The NPN had risen to 75 on September 23, 1949. Urinalysis revealed albumin with hyaline and granular casts. Brucella agglutinations were negative, as was the Congo red test. There was 80% BSP retention in 45 minutes on a 5 mgm./Kilo dose and the cephalin flocculation was 4-plus. X-ray of the chest on July 19th showed a mild pleural reaction in both costophrenic angles with the possibility of a small amount of fluid on the right. A repeat x-ray on August 29th was reported as showing the lung fields to be clear. G.I. series, I.V.P. and K.U.B. were normal. He ran a spiking temperature for two weeks, varying from 99.4 degrees to 102 degrees. From the third to the ninth weeks he showed an occasional low grade temperature. During this time, the pericardial friction rub disappeared, the abdominal distention lessened, and he became ambulatory. On August 1st, spider nevi were noticed and a moderate sized supraclavicular lymph node was found. The latter was biopsied and section was reported as showing residuals of chronic lymphadenitis, containing pigment which did not take the iron stain. During the ninth week, his abdomen became markedly distended with definite signs of free peritoneal fluid and prominence of the abdominal veins. Paracentesis on September 22nd yielded 12,000 cc. of cloudy

orange red fluid with a specific gravity of 1.012 containing many r.b.c. and few w.b.c., lymphocytes predominating. The bile test was negative and no tumor cells were seen on smear. Unfortunately, no smear or culture for acid fast bacteria was made. His condition gradually deteriorated, with apathy, confusion, and coma. There was no icterus. He died on September 26, 1949. The findings on autopsy were ascites, the visceral and parietal peritoneum covering all organs; the mesentery, the intestines and omentum were studded with innumerable greyish white, translucent glistening nodules from 0.1 to 0.2 cms. in diameter. There were esophageal varices. The liver was shrunken, nodular, and hard. The spleen was enlarged. On microscopic examination, the lungs showed a moderate amount of bronchopneumonia. The nodules of the peritoneum were found to be tubercles with slight central necrosis. The liver showed diffuse infiltration by dense fibrous bands with bile duct proliferation and round cell infiltration.

CASE 6. W.M.F., white male, aged 58, farmer, was admitted to the hospital on November 23, 1949, with a chief complaint of abdominal pain. About four weeks before admission to the hospital, he developed a dull ache around the umbilicus which was constant and prevented sleep. This had gradually gotten worse and radiated to the lower part of the back. He had been nauseated but had not vomited. His appetite had diminished because food, especially fried and fatty foods, appeared to make the pain worse. He felt bloated. He had lost 10 to 12 pounds in this period of time. There had been no change in his bowel habits. He had to quit work because of pain. One brother had died at the age of 37 from tuberculosis. Physical examination revealed an individual who appeared older than his stated age and who was in some distress. He was fairly well nourished and developed. Height was 70 inches, weight 160 pounds, blood pressure 120/80, and temp. was 98.8 degrees, P. 104, and R. 22. The abdomen was somewhat distended and a right herniorrhaphy scar was present. A small umbilical hernia was present and there was generalized diffuse tenderness about the umbilicus. There was no spasm or rigidity and digital rectal examination was negative. X-ray of the chest showed calcified hilar glands. G.I. series, G.B. series, and barium enema were all negative. Three stools were negative for

blood, ova and parasites. Gastric analysis revealed a hyperacidity. STS was negative. Liver function studies and urinalysis were negative. Sputa were negative for acid fast bacilli. Complete blood count showed a w.b.c. of 7,900 with 69% polymorphonuclears, Hb. 11.8 gms., hematocrit of 40, and a sedimentation rate of 17. He continued to complain of pain in spite of antacids and antispasmodics. He showed temperature elevations as follows: November 23rd, 100.2 degrees; November 24th, 100 degrees; November 25th, 99.6 degrees; November 28th, 99.6 degrees. No cause for the temperature elevations was ascertained. On January 5, 1950, a repair of the umbilical hernia was performed. In mobilizing the neck of the hernial sac, the peritoneum was opened. A gush of clear serous fluid was immediately apparent. The abdomen was then opened and the peritoneum was found to be studded with small multiple tubercles from 1 to 3 mm. in size. Loops of small gut were slightly thickened, hyperemic and studded with similar tubercles. The mesentery was likewise affected. The abdomen was closed. Microscopic examination of a piece of omentum showed indolent, confluent tubercles manifesting fibrosis, epitheloid cells, Langhan's giant cells and a few round cells. Guinea pig inoculation with this material failed to reveal acid fast organisms. He was placed on paraminosalicylic acid therapy. His postoperative course was uneventful. There was a temperature elevation to 100 degrees on January 6th, and the wound healed by primary intention. His weight on January 17th was 138½ pounds. He was discharged to the care of his private physician on January 20, 1950. To date, we have been unable to locate the patient.

CASE 7. Negro male, aged 47, laborer, was admitted to the hospital on February 6, 1950. He complained of pain in the left upper quadrant and vomiting. He was unable to state just when he became ill, but he thought he had lost 50 pounds in weight in the six months prior to admission. The pain was "pretty bad" but was not related to meals nor was there any radiation. There had not been any blood in the vomitus or stool. He had had a head injury in early childhood. He was told by a doctor in 1931 that he had a spot on the lung. He was hospitalized here in 1934 for "syphilitic rheumatism". There was no family history of tuberculosis. Physical examination revealed a poorly nourished indi-

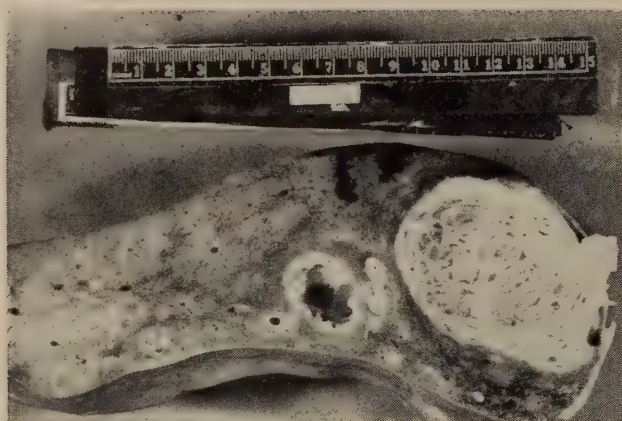


Fig. 2, Case 7.—Picture of a gross specimen of liver showing two large cavities in the right lobe, the largest measuring 7 cms. in diameter, and the smaller 3 cms. The necrotic caseous material has been removed, revealing the white wall of the cavity traversed by fibrous trabeculae. Several smaller, similar cavities are also seen.

vidual who was of low mentality and whose memory was poor. There was evidence of weight loss, he was feeble and he appeared chronically ill. Height was 64 inches, weight 108 pounds, blood pressure

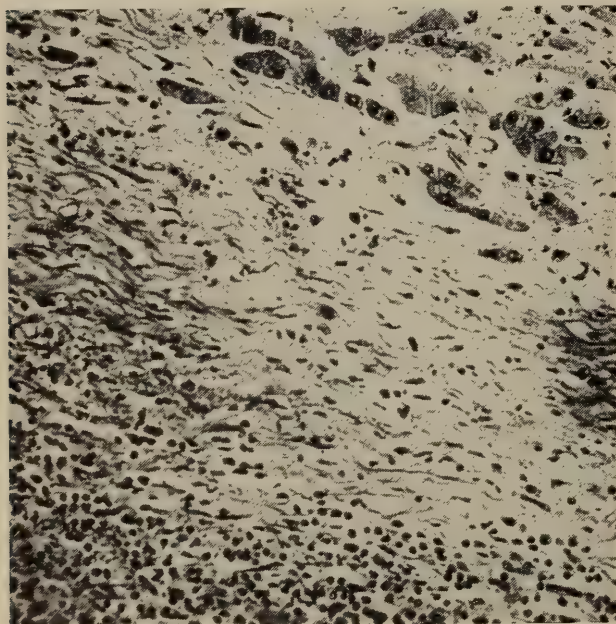


Fig. 3, Case 7.—Photomicrograph of the liver at the edge of the tuberculous capsule showing a few isolated liver cells with fibrosis and round cell infiltration.

120/70, and temp. 98.2 degrees, P. 70, and R. 16. The left pupil was large and fixed (probably secondary to trauma), there was a harsh systolic mitral murmur, and the Romberg was positive. The abdomen showed definite fullness in the right upper quadrant extending towards the midline. The mass on the right was rounded and firm but not hard. To the left of the midline there were several hard and

tender nodules which were also connected to the mass. Rectal examination was essentially negative. On admission, complete blood count showed the following: W.b.c., 9,500; polymorphonuclears, 69%; Hb., 6.7 gms.; and hematocrit, 26. Urinalysis was negative. STS showed a 2-plus Kahn. Gastric analysis showed no free HCl after histamine. Spinal fluid examination revealed normal findings. Liver function studies showed 30% BSP retention in 45 minutes after 5 mgm./Kilo dose, 1-plus cephalin flocculation, and an icteric index of 8.6. Sputa were negative for acid fast bacilli. X-ray of the chest and barium enema were negative. X-ray of the spine showed slight anterior wedging of D-7 (probably the result of an old compression fracture). G.I. series revealed marked tenderness over the hepatic area. The stomach was displaced laterally and anteriorly by an extrinsic mass. He ran an irregular elevated temperature continuously. He received transfusions, supportive therapy, and crysticillin. On March 27th, an exploratory laparotomy was performed. A mass the size of a large orange was palpated in the region of the body of the pancreas. The liver was enlarged and there were six areas upon it which had the appearance of metastatic nodules. One of these was biopsied. The biopsy was reported as a tuberculoma of the liver and contained acid fast bacilli. He was placed on streptomycin and paraminosalicylic acid therapy, blood transfusions, and supportive therapy. He showed improvement in his general condition until April 5th, when he developed a bronchopneumonia which did not resolve. He died on April 26, 1950. An autopsy was performed. Significant findings were extensive bronchopneumonia; the hilar and mediastinal lymph nodes were normal. The heart was normal. The liver weighed 1830 gms. and was studded with numerous elevated green-white nodules from 1-5 cms. in diameter which were more numerous in the right lobe. On section, they had a yellow-green necrotic wall and were filled with thick, creamy yellow-green pus having no odor. The lymph nodes at the hilus of the liver and about the head of the pancreas were similarly involved. The spleen was enlarged (hyperplasia). Microscopic examination of the liver and lymph nodes previously described showed caseating tubercles containing acid fast bacilli. The pancreas showed interstitial round cell infiltration and fibrosis.

COMMENT

Seven cases were presented, all of which showed some form of abdominal tuberculosis without evident clinical pulmonary tuberculosis. Five died; the two living cases could not be located so there has been no follow-up. Five were Negroes. Syphilis was apparent or suspected in three cases. Five cases were operated on and four were autopsied. The diagnosis was not suspected even after the abdomen was opened. This applies to the first operation where the patient had more than one operation. Biopsy and microscopic examination revealed the true nature of the disease. There were no specific symptoms or signs. Systemic symptoms were mild or severe. Fever was absent, low grade, or spiking. It did occur as a complication of some other disease process especially in the older age group. Since this hospital does not admit females or children, the true incidence of the disease could not be ascertained. Specific antibiotic therapy was either not given, given in insufficient quantity, or given when the disease process was too far advanced.

The key to making an early diagnosis of tuberculosis of the abdomen is early and thorough surgical exploration in those cases with indefinite but suggestive symptoms. Localized areas of tuberculosis and other correctible surgical lesions can be cared for surgically. Any tissue removed should be sectioned and examined microscopically. It should be remembered that the removal of appendix involved with tuberculosis or the repair of a hernia where the sac is studded with tuberculous nodules or the biopsy of an organ and establishing a diagnosis does not fulfill the surgeon's obligation to the patient. The patient should be referred to an internist whose special interest is in tuberculosis for further antibiotic therapy. Tuberculosis being a chronic systemic disease will require a long period of therapy and adequate follow-up.

SUMMARY

1. Seven cases of abdominal tuberculosis without

evident clinical pulmonary tuberculosis were presented.

2. The diagnosis was not apparent even after operation in all these cases. The true nature of the disease process was only determined on microscopic examination.
3. There were no specific symptoms or signs.
4. Early exploratory laparotomy with biopsy should be performed in all cases having indefinite but suggestive abdominal symptoms. Early diagnosis with adequate therapy would be life-saving in a greater percentage of cases.

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HEMORRHAGE DUE TO DICUMEROL AND ITS ANALOGUES*

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Because of the 2% incidence of hemorrhage associated with dicumerol administration¹, certain factors increasing the hazard of hemorrhage and specific therapy for this complication will be taken up. An illustrative case will be presented. The present status of Tromexan will be summarized.

If the incidence of hemorrhage is to be decreased, the contra-indications to the use of dicoumarin should always be kept in mind. They are fairly clear cut, though not absolute, namely: hemorrhagic diathesis; open wounds or ulcerations, particularly of the gastro-intestinal tract; any indication of central nervous system bleeding though small in amount; subacute bacterial endocarditis particularly with a septic infarct involving the central nervous system; hepatic damage; renal disease; severe hypertension where the hazards of intracranial hemorrhage must be considered, and in any person on whom there are not adequate facilities for the determination of the prothrombin time.

Dicumerol is readily absorbed from the gastro-intestinal tract, but its maximum effect is not obtained for two to three days. This anticoagulant suppresses prothrombin production, and Lee has shown that it is concentrated in the liver.² Individuals vary with respect to their tolerance to dicumerol, and a small percentage may be resistant to large doses, so that adequate prolongation of the prothrombin time is difficult to obtain. On the other hand, daily administration has a cumulative action, and the anticoagulant activity may persist for ten to fourteen days after the last dose.³

After an initial dose of about 300 mgm. of dicumerol, subsequent administration depends on the patient's prothrombin time. The commonest method of prothrombin time determination is the one stage method of Quick⁴ or some minor variation thereof. This test, though a good one, has definite limitations. At times, a patient may have a spontaneous hemorrhage though a recent prothrombin time has been reported which would seem to have been relatively within the range of safety. For details concerning

prothrombin time determinations and its limitations, one is referred to the recent papers by Riggs⁵ and Jaques.³ As an example of the difficulties which may be encountered during dicoumarin therapy, a case report is submitted in the following paragraph.

A 64 year old, married, white man was hospitalized on the 15th of August, 1950, with precordial pain due to a myocardial infarction. For about two years, he had had proven diabetes mellitus which had been controlled by a diet and 10 units of protamine zinc insulin given daily. Latent and inactive lues, which had been treated and did not involve the central nervous or vascular system, had been previously and completely investigated. His course, with respect to his coronary occlusion and diabetes, was uneventful. However, complications with respect to dicumerol therapy are shown in Figure I. Gross hema-

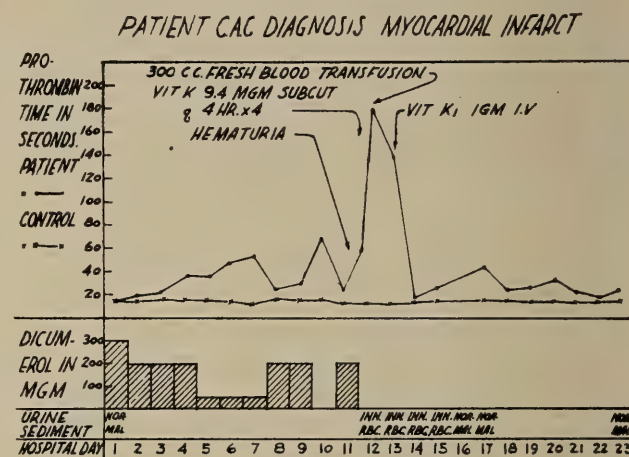


Fig. 1.

turia was noted on the eleventh hospital day during the evening and lasted for four days. The only other evidence of hemorrhagic diathesis was quite marked ecchymosis of the antecubital fossae associated with repeated venipunctures. As shown on the chart, his prothrombin time rose from 24 to 180 seconds in a period of twenty four hours. On the 12th hospital day, Vitamin K, 9.4 mgms., was begun by hypo. every four hours for four doses, and a transfusion of 300 c.c. of fresh blood was administered during the same afternoon. During the next 20 hours, his prothrombin time fell from 180 to 138

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seconds. Because of a delayed chill and febrile reaction associated with the transfusion, the remainder of the blood could not be given on the subsequent day. Hence, on the 13th day, 1 gm. of Vitamin K 1, mixed with 30 c.c. of alcohol and added to 200 c.c. of 5% glucose, was administered intravenously as rapidly as possible in a dimly lighted room. Vitamin K 1, after it has been removed from the vial is extremely light sensitive. As shown in Figure I, the prothrombin time fell in 24 hours from 138 to 18 seconds; it remained elevated for the next nine days varying between 42 and 20 seconds. This was due to the latent effect of dicumerol which, in this case, was present twelve days after the last dose of this particular medication.

This man's hematocrit remained stationary between 42 and 43%. His blood urea was normal on the fourth day after his transfusion reaction, and his urinary output was good throughout his period of hospitalization. He was never icteric, nor was the liver enlarged or tender. Hence, renal and hepatic insufficiency did not seem to be contributory to the sudden rise and prolongation of his prothrombin time. Several other factors have been reported to make for variations in the effect of dicumerol^{6,3}, namely: (1) drugs, which include salicylates, methyl xanthines, digitalis, and chloroform anesthesia, (2) nutritional status, particularly fasting, protein intake, alcohol consumption, and vitamin C and K levels not only in the diet but also in the body reserves, (3) pregnancy and lactation.

There has been considerable discussion in the literature as to the relative merits of vitamin K and vitamin K 1 in counteracting over-dosage due to dicoumarin^{6,7,8,9,10,11,12}. Miller *et al.*¹² failed to note any appreciable effect of the water soluble vitamin K preparations in correcting hypoprothrombinemia due to dicumerol. Both animals and patients were studied. All were carefully maintained throughout the experiments on a given dose of dicoumarin. On the other hand, these observers found that the antagonistic action of vitamin K 1 under comparable conditions was quite striking within a period of eight to twenty-four hours. In a recent study of patients whose prothrombin time was over fifty seconds, Overman and Wright¹⁰ divided their subjects into two groups: (a) those who received only water soluble vitamin K preparation, and (b) those not treated. In sixteen patients receiving 72

to 75 mgm. of vitamin K intravenously, there was within a 24 hour period an average decrease in prothrombin time of 45 seconds. For the eight receiving 144 mgm. or more of vitamin K intravenously, there was an average drop of 76 seconds during the same interval of time; whereas the control group had an average diminution of 15 seconds. Previously other observers had reported favorably on the effect of the water soluble preparations in counteracting hypoprothrombinemia due to dicoumarin.^{6,7,8,9}

In order to evaluate these two rather divergent opinions, several factors deserve consideration: (1) Simultaneous administration of dicumerol and vitamin K, as reported by Miller,¹² alters the response to vitamin K.¹⁰ (2) Because of the cumulative action of dicumerol, the amount of this anticoagulant administered during the seven to fourteen days prior to using the water soluble antagonist is extremely significant. (3) Vitamin K preparations contain about 40% of the active, antagonistic ingredient, 2-methyl-1, 4 naphthahydroquinone, whereas vitamin K 1, and K 1 oxide contain almost 100%.¹⁰ Hence, a weigh for weigh comparison is not only misleading but also fallacious.

In cases of hypoprothrombinemia due to dicumerol, but not complicated by hemorrhage, the only treatment requisite is the omission of the anticoagulant, and, if situation warrants it, vitamin K 72 to 150 mgm. intravenously every twenty-four hours until the prothrombin concentration returns to safe levels. When slight bleeding is also present, it may be necessary, in addition to the aforementioned therapy, to use blood, plasma, or serum, all of which should be fresh. Lyophilized plasma may be employed since it retains most of its prothrombin potency, but blood and plasma stored in a liquid state quite rapidly decline in this respect. Hypoprothrombinemia associated with hemorrhage of any appreciable degree may necessitate the use of vitamin K 1 or K 1 oxide as well as fresh blood, etc. However, in the presence of active thromboembolic disease, the desirability of rapidly reducing the prothrombin time to normal by administration of the fat soluble vitamin K preparations must be weighed against the threat of hemorrhage to the patient's life.

Because of the latent period with respect to the anticoagulant activity of dicumerol and its prolonged action, two dicoumarin analogues have been under investigation. In Australia, the ethylidene derivative

of dicumerol has been tried.³ Though it is less active than dicumerol, recovery from its anticoagulant effects is more rapid. Tromexan, 3, 3' carboxymethylenebis (4 hydroxycoumarin ethyl ester), is chemically quite similar to dicumerol. (See Figure 2).

THE STRUCTURAL FORMULAE OF TROMEXAN AND DICUMEROL

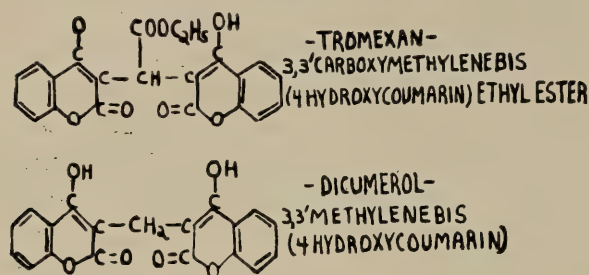


Fig. 2.

In studies on rats, Hausner¹⁷ employed Tromexan and dicoumarin labeled with radioactive C¹⁴. Following oral administration, there was no appreciable difference in the rate or the amount absorbed, about 72% of each being recovered from the feces and the gastrointestinal tract. In the case of those animals receiving Tromexan, there seemed to be a higher concentration in the liver and earlier urinary excretion.

In normal individuals, several observers^{13,15,17} have found that 1.2 to 1.8 gms. of Tromexan given orally in a single dose lowered the prothrombin time to satisfactory levels within a period of twenty to thirty-six hours. Within sixty hours time, the average prothrombin time had returned to almost 100% of normal.

In England, Burt and her associates¹³ used Tromexan in 126 subjects with thrombo-embolic disease. The initial dose was 0.9 to 1.2 gms. Thereafter, as in dicumerol administration, the dosage was regulated according to the prothrombin time. The average, daily maintenance dose was 0.3 and 0.6 of a gm. In 80% of the patients the full effect of the anticoagulant was obtained within 36 hours. A slow initial response did not necessarily mean that these same subjects will show a delay in metabolizing or neutralizing this medication. Within 36 hours after discontinuing this anticoagulant, more than 80% of the patients had a prothrombin concentration greater than 50% of normal. Fifteen subjects required 60 hours or longer for their prothrombin levels to become 50% or more.

In the post-partum cases in which Tromexan was used, there was no bleeding, and the infants, which were breast fed, did not have a prolongation of the prothrombin time which can occur with dicumerol administration.¹⁶ Some patients complained of a bitter taste. Mild nausea and vomiting was noted by three of the 126 subjects. One case of hematuria occurred, but this resulted from an over-dosage through an error. In 112 cases treated by Burke and Wright^{14,15} their results were in general comparable to those obtained by the British workers. Three patients with renal damage showed evidence of microscopic hematuria, and in one other subject with liver disease, there was slight alteration of the cephalin flocculation test and of the albumin-globulin ratio. Otherwise, no significant toxic effects were noted. Satisfactory hypoprothrombinemia was usually obtained with a single daily dose of 600 to 2400 mgm. of Tromexan, the amount being determined by the individual's daily prothrombin time. In an occasional case, it was necessary to administer the predetermined amount of this anticoagulant in two or three equal doses during the twenty-four hour period. The relatively rapid action and only slight tendency for any cumulative effect facilitated the regulation of patients receiving Tromexan.

CONCLUSION

Because of the constant threat of hemorrhage associated with the administration of dicumerol and its analogues, an intimate knowledge not only of their specific actions and limitations, but also of their antagonists is absolutely requisite. Tromexan, because of its relatively rapid action and short duration of anticoagulant activity, merits a more widespread clinical trial.

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Many Causes for Common Backache.

"Oh, my achin' back," can be much more than just a slang expression. Most aching backs are the results of an abnormal change in the normal physiological curves of the spine, in the opinion of Dr. Frank R. Ober, a Boston orthopedic surgeon.

Writing in a recent *Journal of the American Medical Association*, the author stated he believed the causes of back pains fall into six categories—injuries, bad posture, congenital malformations, diseases of spinal bones and joints, malignant disease, and diseases outside the spine.

Included in these categories are injuries due to bruises, sprains, strains, dislocations, compression fractures and ruptured disks; bad standing, sitting, lying and walking postures; arthritis; tuberculosis and osteomyelitis; cancer, tumors and leukemia; ulcers; smallpox, and pregnancy.

In addition to such causes of backaches, real or fancied pains in the back may result from neuroses, chronic emotional disturbances, malingering and compensation problems, according to Dr. Ober.

"There has been and still is a great tendency to ascribe all backaches to one cause—for example, for many years the term 'sacroiliac dislocation' has been held in great vogue; lately, this seems to be going out of fashion, and the diagnosis of 'ruptured disk' is in the ascendancy."

Treatment of a backache depends on the acuteness of the attack and can include one or more of the following, depending upon necessity: sedatives, bed rest, adhesive plaster strapping, heat treatment, back supports, special corset, special mattress, or exercise.

"Finally," Dr. Ober stated, "physical therapy measures designed to remove inhibiting contractures, restore muscular tone and function, and correct posture will result in a large number of cures."

HERPES ZOSTER OF THE CRANIAL NERVES*

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It may appear commonplace to discuss the manifestations of herpes zoster of the cranial nerves; but, with the exception of herpes zoster ophthalmicus, herpes zoster of other cranial nerves is not often diagnosed, although it occurs more commonly than one would believe. Herpes zoster is a disease which was well recognized by the ancients; however, our understanding of herpetic involvement of the cranial nerves is of more modern origin. Some forty-odd years ago, Ramsey Hunt¹ presented his concept of herpes zoster of the cephalic extremity as we know it to-day. Tschiasny² has more recently elaborated upon these concepts. As a result of these studies, the following classification has evolved:

- herpes facialis (gasserian ganglion)
- herpes oticus (geniculate ganglion)
- herpes auditorius (vestibular and cochlear ganglia)
- herpes pharyngis (glossopharyngeal ganglia)
- herpes laryngis (vagal ganglia)
- herpes occipitocollaris (cervical ganglia).

With the interest in virus diseases obviously stimulated by the recent successful investigations in the therapy of these diseases, we deem it timely to review briefly the manifestations of cranial nerve herpes. This necessarily must be from an anatomical as well as a clinical point of view. To be able to recognize herpes of the cranial nerves, one must have a workable anatomical knowledge of the peripheral distribution and numerous communications of the ganglia, plexuses, and nerve trunks.

Clinically we well know the pattern of the herpetic attack. The patient suffers general malaise for a period of several days. A slight elevation of temperature is expected. Pain and paresthesia of the skin and mucous membrane in an area innervated by the affected nerve precedes the typical and diagnostic eruption of the skin and membranes. A characteristic group of vesicles appear on an erythema-

tous base. The distribution is usually unilateral and confined to the sensory distribution of the involved nerve. Bilateral herpes zoster is quite rare. Regional lymphadenopathy may be present. Pain is variable; it may be mild, even absent, to severe. It usually diminishes with the subsidence of the eruption. An annoying hyperesthesia or postherpetic neuralgia may persist for many months in certain individuals. There is often some increase in cells, chiefly lymphocytes, in the cerebrospinal fluid.

It is considered at the present time that the basic lesion of herpes zoster is probably an inflammatory disease located in the dorsal root or cranial sensory nerve, caused by a neurotrophic and epidermotrophic virus (Lever)³. These specific pathological changes are now regarded as more diffuse rather than localized, extending to and involving not only the ganglion but also the posterior and anterior horn cells and the meninges. The cutaneous or mucosal vesicle is thought to be a result of the peripheral migration of the virus from the ganglionic focus to a location in the cutaneous and/or mucosal epithelial cells. A virus has been shown to be present in the vesicles.

Laboratory clinicians have had little success in developing a technique in the diagnosis of the disease, perhaps because the virus has not been found to be transferable from man to any suitable laboratory animal. Blank⁴ and his collaborators have recently presented a technique for the cytologic diagnosis of vesicular lesions of the skin and mucous membranes caused by the virus of herpes zoster, simplex, and varicella.

In this discussion of the manifestations of herpes zoster of the cranial nerves, only the salient features can be considered. For instance, there are certain controversial points in tracing the pathways of the taste fibers from the tongue, and the sensory distribution of the facial (glossopalatine) nerve. Discussion of those points will not be attempted. Again, various combinations of the disease involving mul-

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multiple cranial ganglia and nerves are quite common and interesting; but time and space preclude any elaboration here.

MANIFESTATIONS

Herpes Facialis (Gasserian Ganglion).

This is by far the most common of the sensory cranial nerves affected by the herpetic process. The pain and eruption occur in the sensory areas of the branches of the fifth nerve, especially the ophthalmic branch. Any of the structures of the eye may be affected in ophthalmic herpes. The zoster area includes the skin of the face and the mucous membranes of the nose, nasopharynx, and mouth. Occasionally palsies of the ocular muscles may develop. Theoretically, a unilateral paralysis of the muscles of mastication is possible.

Herpes Oticus (Geniculate Ganglion).

Infection here may cause pain and eruption of the skin of the central portion of the auricle and auditory canal, resembling an external otitis. In addition, there may be interference with taste, lacrimation, and often an associated facial paralysis; this is the so-called Ramsey Hunt syndrome. There may even be a concomitant involvement of the vestibular and cochlear ganglia, producing vertigo, deafness, and tinnitus.

Herpes Auditorius (Auditory and Vestibular Ganglia).

Primary herpetic infection of the auditory and vestibular ganglia is rarely diagnosed. When cochlear and vestibular symptoms present themselves in association with herpes oticus or herpes of some other cranial nerve, the nature of the infection is recognized. Some cases of acute episodes of tinnitus, vertigo, and deafness may be explained on the basis of a herpetic inflammation.

Herpes Pharyngis (Glossopharyngeal Ganglia).

This manifestation of herpes zoster has long been recognized by the laryngologist. It is perhaps uncommon in itself, or frequently, as in herpes zoster of the vagus nerve, is not diagnosed as such. The glossopharyngeal ganglia have sensory representation on the auricle (central section) and the mucous membranes of a part of the soft palate, uvula, tonsil areas, adjacent pharyngeal region, and posterior lateral surface of the tongue. The diagnosis is sug-

gested by ear and pharyngeal pain, plus vesicular eruption in the above mentioned areas of skin and mucous membranes.

Herpes Laryngis (Vagal Ganglia).

The anatomical manifestations of the vagus nerve provide the interesting and varied features of the clinical entity, herpes laryngis or herpes zoster of the vagus nerve. There are connecting links between the vagus, glossopharyngeal, spinal accessory, facial, hypoglossal and cervical nerves. One may demonstrate the vesicular eruption involving the skin of the central part of the auricle, the mucous membrane of the base of the tongue, epiglottis, arytenoids, and aryepiglottic folds. In addition, motor paralysis may affect the muscles of the larynx and pharynx, with resulting dysphonia and dysphagia. Tachycardia, bradycardia, gastric retention, and other manifestations of vagus nerve dysfunction may be prominent. With herpes zoster, then, of the vagus nerve, one may expect such complaints as pain in the ear and throat, difficulty in speech and swallowing, gastric and cardiac distress, and nausea and vomiting. There is little doubt that herpes zoster of the vagus nerve occurs more often than recognized and diagnosed.

Herpes Occipitocollaris (Cervical Ganglion).

Herpes of the second and third cervical ganglia is not uncommon, and is readily diagnosed by the appearance of vesicles in the skin areas supplied by these nerves.

COMMENT

It must be noted that it is common for herpes of the various individual cranial nerves to be manifested in part only, rather than for the entire picture to be represented. For example, one may have in the vagus syndrome only pain and vesicles in the hypopharyngeal region, with no involvement of the ear, motor manifestations, nor other possible complications. Also, it is common to have a combination of involvement of multiple nerves, such as herpes facialis with ocular paralysis or facial paralysis, or geniculate and auditory ganglia involvement, or a vagoglossopharyngeal syndrome. It behooves us, in the event of the development of pain and vesicles in a zoster zone of a sensory nerve, to search carefully for a possible motor involvement of the fibers of the same nerve or of a neighboring nerve.

PROGNOSIS

An attack of herpes zoster does not confer a permanent immunity. The disease is a self-limited one, lasting from three to six weeks. The motor paralysis, if present, may last longer; and in elderly and debilitated patients, a troublesome, painful, postherpetic neuritis may develop, lasting for months.

TREATMENT

For the alleviation of pain, control of vesicle formation, paresthesia, and prevention of postherpetic neuritis, many therapeutic agents have been given enthusiastic recommendations in the treatment of the various phases of herpes zoster. Unfortunately, most of these methods have proven to be disappointing and unsuccessful.

With the recent advances in the development of antibiotics, it is natural to find numerous reports in the literature, referable to the use of aureomycin and chloramphenicol (chloromycetin) in cases of herpes zoster. The initial enthusiasm is the same as with the older and now discarded remedies. Most of the reports have been limited to the use of these drugs, particularly aureomycin, in groups of only several cases. Some believed that these antibiotics favorably influenced pain, the rate of formation and healing of the vesicles, and the prevention of postherpetic neuralgia. More recently the reports have become noticeably conflicting in their conclusions. There have been case reports in which patients, while on adequate doses of aureomycin and chloramphenicol for other disease, have developed herpes zoster.

After surveying the recent literature on therapy in herpes zoster, it seems to us that two reports warrant some comment. Finland *et al.*⁵ (1949) presented the results of the treatment with aureomycin in 24 cases of herpes zoster. They stated that aureomycin appeared to be of benefit in bringing about rapid healing of the lesions, cessation of vesicular formation, and in favorably influencing pain and postherpetic neuralgia, in the event that the drug was administered early. On the other hand, Carter⁶ (1951), in a group of 44 cases, some being used as controls and others being treated with aureomycin or chloramphenicol, arrived at a less favorable impression. The results indicated that there was no significant difference between the controlled and treated groups in regard to pain, the appearance of new vesicles, paresthesia, or the development of postherpetic neuralgia.

The majority opinion now seems to be that aureomycin and other antibiotics are of definite value in the treatment and prevention of secondary infection of the vesicles, and in shortening this phase of the disease and preventing cutaneous scarring; also, that antibiotics are definitely beneficial in treating the ophthalmic complications of herpes zoster.

In the final analysis at the present time, there is no specific nor successful therapeutic agent in the treatment of the nerve disease, herpes zoster. Aureomycin or chloramphenicol, in large initial doses (4 gm. daily), should be given in certain selected cases to combat secondary infections and ophthalmic complications. The local treatment should also be directed to combating secondary infections by the use of medicated powders or ointments. Attempt should be made to control pain; first, with the use of such analgesics as the salicylates, with the addition of codein or demarol in the severe cases. Care should be exhibited in the use of opiates, particularly in the persistent, postherpetic, neuralgic cases.

The use of such drugs and methods as injections of protomide, tetraethylammonium chloride, dihydroergotamine, x-ray irradiation, and others have given indifferent results. In concluding the discussion on therapy, it may be added that cortisone and ACTH have been of no value. Terramycin has not been tried apparently to any great extent as yet, but one could not expect any better results from this drug than from the other antibiotics mentioned.

CONCLUSION

Attention is directed to the manifestations of herpes zoster of the cranial nerves. The condition is not uncommon, but is often not recognized. The treatment remain non-specific except for the use of the antibiotics in the prevention of secondary infection of the vesicles and in the ophthalmic complications, thus shortening the duration of the disease, and preventing scarring and impairment of vision.

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Drug Helps to Relieve Polio Pains and Spasms.

Priscoline (trade mark), a drug which inhibits the sympathetic nervous system, has been found effective in relieving pain and spasm in some patients with acute poliomyelitis affecting the spinal nerves, it was stated in the March 29 J.A.M.A. In many cases the drug affords adequate relief of symptoms, making sleep and rest possible, permits more effective physical therapy, and removes the necessity for undesirable hot packs, according to Drs. A. C. LaBocchetta and K. E. Dawson, of the Philadelphia Hospital for Contagious Diseases, Philadelphia.

The doctors based their conclusions on a study of 71 patients with acute polio affecting the spinal nerves. The patients, ranging in age from one to 34 years, were given the drug orally and intramuscularly. Minor side effects occurred in several patients, but disappeared upon withdrawal of the drug.

Forty-five (63.4 per cent) of the patients treated with priscoline showed desirable response, the doctors pointed out. When the response was good, definite relief occurred within 15 to 30 minutes after administration of the drug.

Complete relief of pain and complete or nearly complete relief of muscle spasm was obtained in 19 (26.8 per cent) of the patients. Partial effect, with complete relief of pain without striking relief of muscle spasm, was obtained in 26 (36.6 per cent) of the patients; no effect was seen in 26 (36.6 per cent).

Muscle pain occurs in the majority of, if not all, cases of acute poliomyelitis affecting the spinal nerves, the doctors stated. Pain may occur spontaneously, or may be caused by pressure or stretching of the muscle; shortening muscles believed to be in spasm are usually the most painful. The duration of such pain is usually two to six weeks, although it may last six to nine months.

The mechanism of the pain is not definitely known, and the relationship between muscle pain or spasm and the accompanying or ensuing paralysis has not been established, the doctors added. However, it is generally accepted, they said, that prolonged muscle spasm, particularly when associated with muscle shortening, may be harmful by deterring recovery or causing permanent changes in the affected muscles.

INEQUALITY OF LEG LENGTH*

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The problem of inequality of length of the lower extremities has been a challenge to orthopaedic surgeons for many years. Prior to the advent of anesthesia and modern surgical technique, the only answer to this problem was the use of a built-up shoe or some type of prosthetic device for the affected leg.

In the past century, the correction of unequal leg lengths has been approached by methods of either lengthening the short leg or shortening the good leg. The first recorded operation of this type was done by Rizzoli² of Italy, who in 1845 deliberately allowed a fractured femur to override and shorten by three inches to compensate for a short leg on the opposite side. This approach to the problem, as well as others of similar nature by the same surgeon, were fairly successful considering the crude instruments at his disposal. Very little further work of this nature is reported in the literature for the next fifty years. In 1905 Codivilla¹ approached the problem by lengthening the affected leg. He employed a

of the femur itself, but emphasized the extreme difficulty encountered in obtaining the same amount of length from the blood vessels and nerves. Paralysis and extensive skin sloughs were not uncommon following attempts to lengthen a leg. These major and often tragic complications following leg lengthening operations (Figures 2-A and 3) caused almost com-

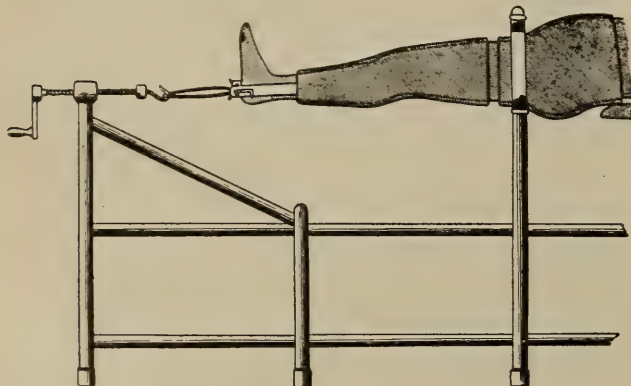


Fig. 1.—Diagram of traction apparatus as described by Codivilla. Traction is applied through a pin in the os calcis following osteotomy of the tibia or femur. (Redrawn from *American Journal of Orthopaedic Surgery*, 2, 1905).

traction pin through the os calcis to maintain traction on the leg after osteotomy of the femur (Figure 1). Codivilla, among others, pointed out the relative ease of obtaining as much as 4 cms. lengthening

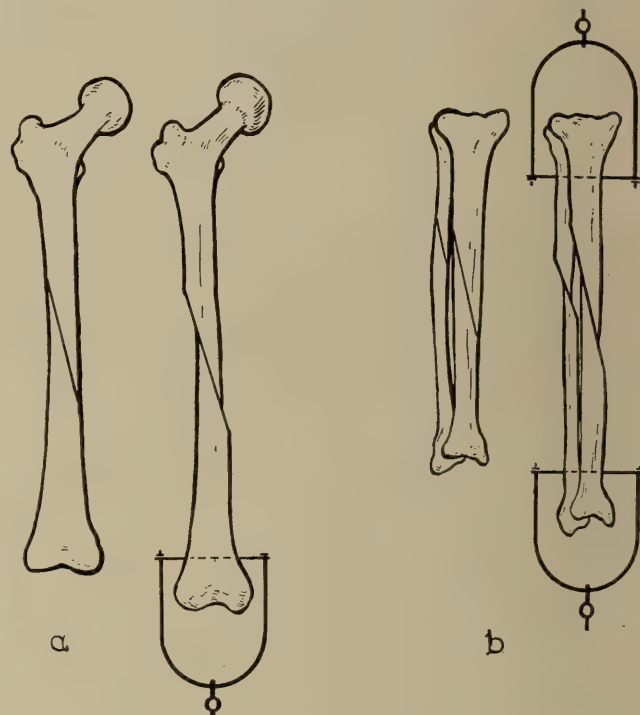


Fig. 2.—A. Oblique osteotomy of femur with traction applied by Kirschner wire through lower femur.

B. Osteotomy of tibia and fibula with traction applied through proximal and distal tibia, as reported by Abbott and Saunders.

plete abandonment of this approach to the problem for many years.

The next logical procedure was that of shortening the good leg. Many ingenious methods for leg shortening were outlined by investigators interested in the problem. (Figure 4). Considerable resistance was, and still is, encountered from the patient or his family against any operation on the good leg. Fear of complications or deformity of the good leg following surgery are certainly understandable rea-

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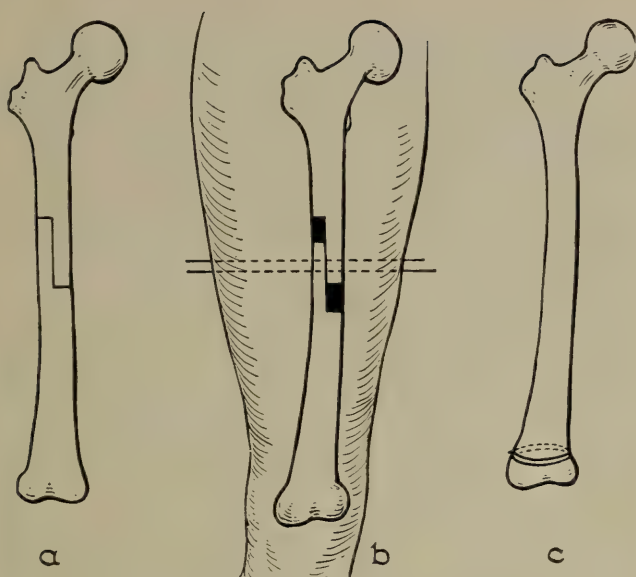


Fig. 3.—A and B. Schematic drawing of step-cut osteotomy of femur internally fixed by two Kirschner wires. The wires are incorporated in the cast and removed when sufficient callous has formed.

C. Schematic drawing of wire loops encircling the distal femoral epiphysis, as reported by Haas.

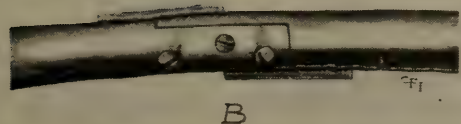
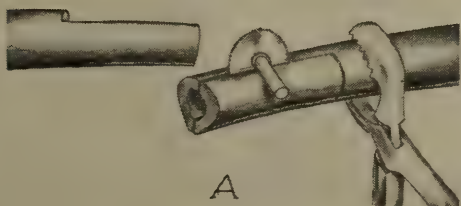
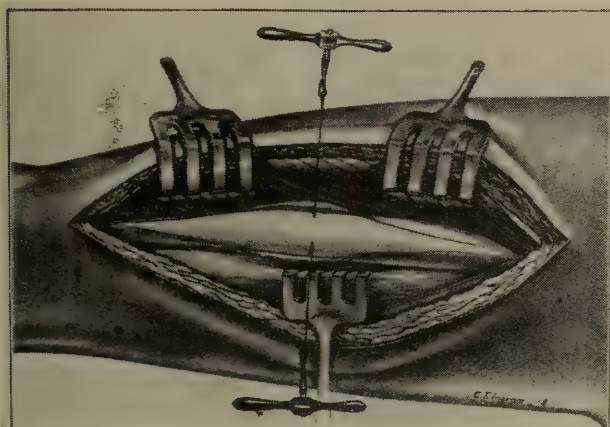


Fig. 4—Step-cut osteotomy of femur followed by mortice fitting of fragments. Internally fixed with screws and utilization of the mortice fragments as onlay bone grafts. (Reprinted from *Campbell's Operative Orthopaedics*).

sons for objections to surgery on the unaffected leg. Calve and Galland³ described a new and meticulous method of femoral shortening in 1918 (Figure 5). Taylor⁴ in 1916 and Shands⁵ in 1917 had previously used different operative techniques in seeking an answer to effective shortening of the good leg. Following World War I, very little work was done on either leg lengthening or leg shortening for several years. In the late twenties and early thirties several investigators became interested in leg lengthening again. In 1936 Abbott and Saunders^{6,7,10} of San

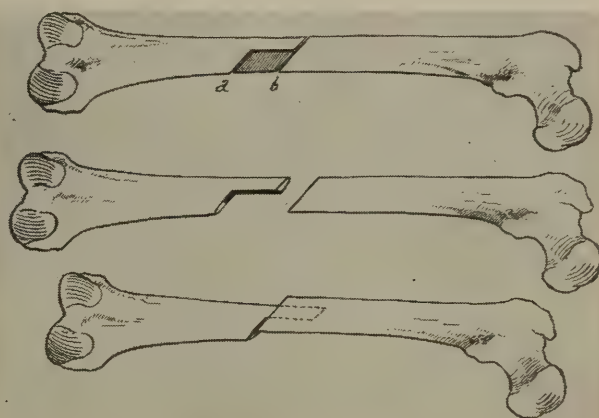


Fig. 5.—Method of Calve and Galland for femoral shortening, using an autogenous intramedullary bone peg. (Reprinted from *American Journal of Orthopaedic Surgery*, 16, 1916).

Francisco described a very extensive operative technique for leg lengthening (Figure 2-B). They repeatedly emphasized the danger of vascular and nerve complications, but in spite of these warnings their investigations stimulated many others to attempt leg lengthening. The many tragic and often fatal complications resulting from many of these operations practically stopped all attempts at leg lengthening. In 1932 Phemister¹¹ of Chicago had approached the problem by an operation to arrest

the growth of the good leg by curetting the epiphyseal plates of the lower femur and upper tibia (Figure 6). This approach to the correction of inequality

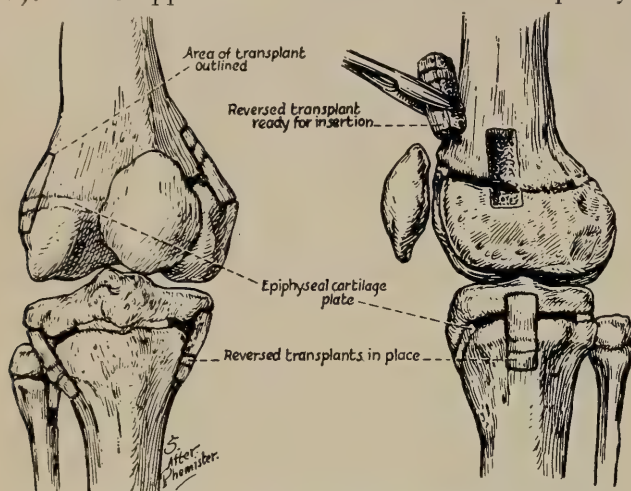


Fig. 6.—Phemister technic of epiphyseal arrest, using reverse bone blocks. The epiphyseal plates are curetted prior to reinsertion of the bone blocks. (Reprinted from *Journal of Bone and Joint Surgery*, 1, 1933).

of leg length was the most scientific and least hazardous of all previous attempts. This operation of epiphyseal arrest was of less magnitude than any previously described procedure and carried relatively little risk of complications. Phemister used as a guide for surgical intervention a chart of expected growth of the good leg.

Investigations by others interested in the problem resulted in several charts of future leg growth estimation^{12,20}. No two of these growth charts were in agreement, however, with the result that the operation for epiphyseal arrest resulted in either over-correction or under-correction. The major fault with Phemister's operation was that if epiphyseal growth was not completely stopped on both sides of the epiphyseal plate, angular deformities occurred, such as knock knees or bow legs. In spite of these difficulties, however, tremendous interest was stimulated and within a few years much accurate knowledge was added to the problem of the unequal leg. Sympathectomy of the short leg side was offered as a possible solution on the assumption that the increased blood supply would stimulate epiphyseal growth¹⁸. So little growth was gained, however, as a result of sympathectomy, that this approach was soon abandoned. X-ray irradiation¹⁹ of the epiphysis of the good leg was very popular both here and in England for a short while, but was soon discarded because of inaccuracies and because of the complications of soft tissue damage from the X-ray. Further at-

tempts²² to stimulate the growth of the short leg by periosteal stripping, fractures, etc., were all too inaccurate to be of value. Pease²³, of Chicago, however, actually stimulated epiphyseal growth by inserting irritating screws or bolts of metal or ivory in the metaphysis near the epiphyseal plate. His results from this approach, as recently reported, are very stimulating, but further investigative work is needed before this method can be widely used.

In 1945 Haas^{16,17}, of San Francisco, opened an entirely new field of investigation when he reported the arrest of epiphyseal growth by insertion of a wire loop around the epiphyseal plate (Figure 3-C). The most remarkable part of this report was the revelation that in those cases in which the loop broke, due to excessive strain, growth of the epiphyseal plate actually continued at the same rate as prior to the insertion of the wire loop. This very important contribution by Haas stimulated Dr. Walter Blount^{14,15} of Milwaukee, to approach the problem of epiphyseal arrest by placing stainless steel staples across the epiphyseal plate (Figure 7). His in-



Fig. 7.—Artists drawing of Blount's type stainless steel staples inserted in distal femoral and proximal tibial epiphyses.

vestigations have placed in the hands of the orthopaedic surgeon a very simple, highly accurate, means of equalization of leg length. His work has been further enhanced by the investigations of Dr. William Green^{8,9}, of Boston. Green has studied and accurately charted the growth of both normal children and those affected by poliomyelitis. The reports of his studies make it possible to know exactly how much growth can be expected in a child and to plan epiphyseal arrest so that the end result will be extremely accurate in the great majority of cases.

The use of staples to arrest epiphyseal growth can not only be employed for arrest of longitudinal

growth, but can also be used to correct angular deformities, such as knock-knees, bow legs, and so forth.

The following statistical factors are but a few of the results of the investigations of Green, Baldwin, Hatcher, White^{13,21} and many others to aid the orthopaedist in planning a contemplated epiphyseal arrest.

TABLE I

70% of the growth of the femur occurs in the distal epiphysis; 56% of the growth of the tibia occurs in the proximal epiphysis.
Of the total growth of the lower extremity, the distal femoral epiphysis contributes 40% and the proximal tibial epiphysis 27%.

TABLE II

In actively growing children past the age of 8 years until cessation of growth the distal femoral epiphysis grows 1.3 centimeters per year and the proximal tibial epiphysis 0.9 centimeters per year—a total of 2.2 centimeters or $\frac{7}{8}$ " per year.
On the average boys grow until the age of $16\frac{1}{4}$ years.
On the average girls grow until the age of $14\frac{1}{4}$ years.
The rate of growth in the last year is only one-half of that during the actively growing years.

With these proven facts available, the orthopaedist can plan the operation of epiphyseal arrest with accuracy and with the knowledge that the end result in the great majority of cases will be within $\frac{1}{4}$ to $\frac{1}{2}$ inch of the perfectly desired end result.

TABLE III
THEORETICAL CASE

- (1) A 9 year old male with $2\frac{1}{2}$ inch (6.25 cms.) shortening of the left leg due to poliomyelitis.
- (2) Divide the amount of shortening in centimeters (6.25) by the yearly increment of growth—2.2 centimeters. 6.25 divided by 2.2 equals 2.7.
- (3) This factor (2.7) is then subtracted from the age at which growth ceases—for boys 15 years and 9 months ($16\frac{1}{4}$ years minus 6 months due to only $\frac{1}{2}$ rate of growth in past year).
- (4) 15.75 minus 2.7 equals 13.05—the age at which the epiphyseal arrest should be done.

There is some disagreement at the present time as to whether the epiphyseal arrest should be done on the basis of the above mentioned formula. Green and others feel that this scientific approach is to be desired. Blount, on the other hand, feels that the epiphyseal arrest should be done as early as possible, and when equalization of the leg lengths has been obtained, then remove the staples and allow growth to proceed. We have not had enough ex-

perience with epiphyseal stapling as yet to take sides in this controversy.

The operation of insertion of the staples across the epiphyseal line, either of the femur or tibia or both is a relatively easy procedure and can be done with great accuracy, using portable X-rays at the time of operation to check the insertion of the staples. (Figures 8, 9, 10, 11).



Fig. 8.—X-rays of 13 year old white male with Blount type staples bridging the distal femoral and proximal tibial epiphyses.

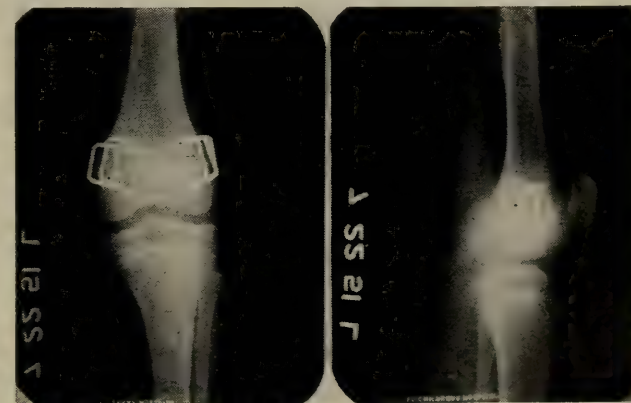


Fig. 9.—X-rays of a 10 year old white female with Blount type staples bridging the distal femoral epiphysis only.

At Crippled Children's Hospital and Medical College of Virginia Hospital, Richmond, Virginia, we have done thirty-five epiphyseal arrest operations in the past two and one-half years. It is obvious that the period of follow-up in many of these cases is too short as yet to come to any definite opinions or conclusions, but we are reporting our experiences with these 35 cases in the hope that further work of this nature will be stimulated.

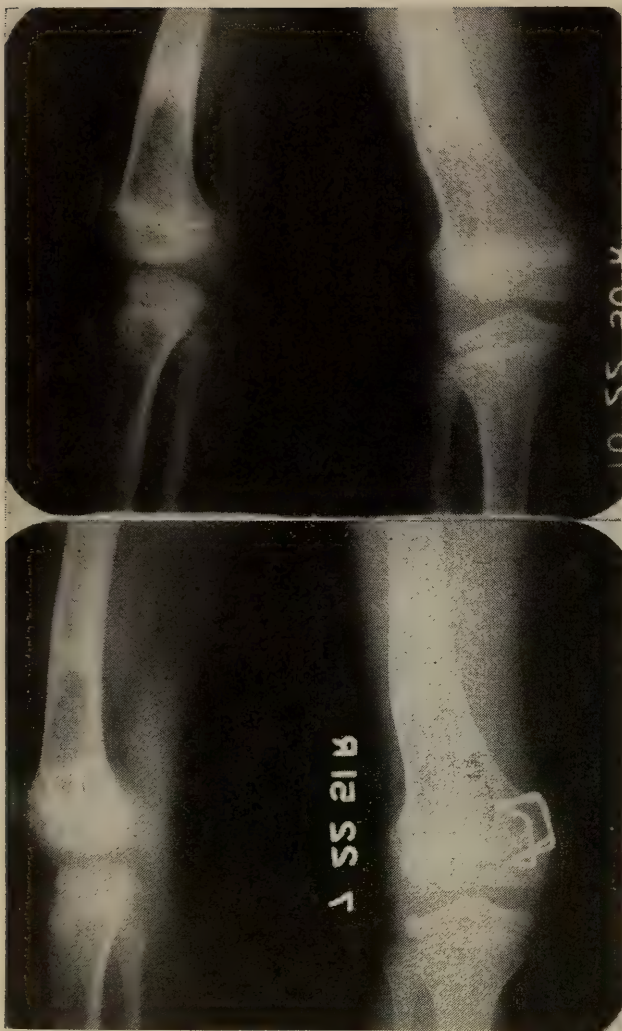


Fig. 10.—Pre-operative and post-operative x-rays of a 10 year old white female with knock knee deformity secondary to old fracture of lower femur with staples bridging distal medial femoral epiphysis.

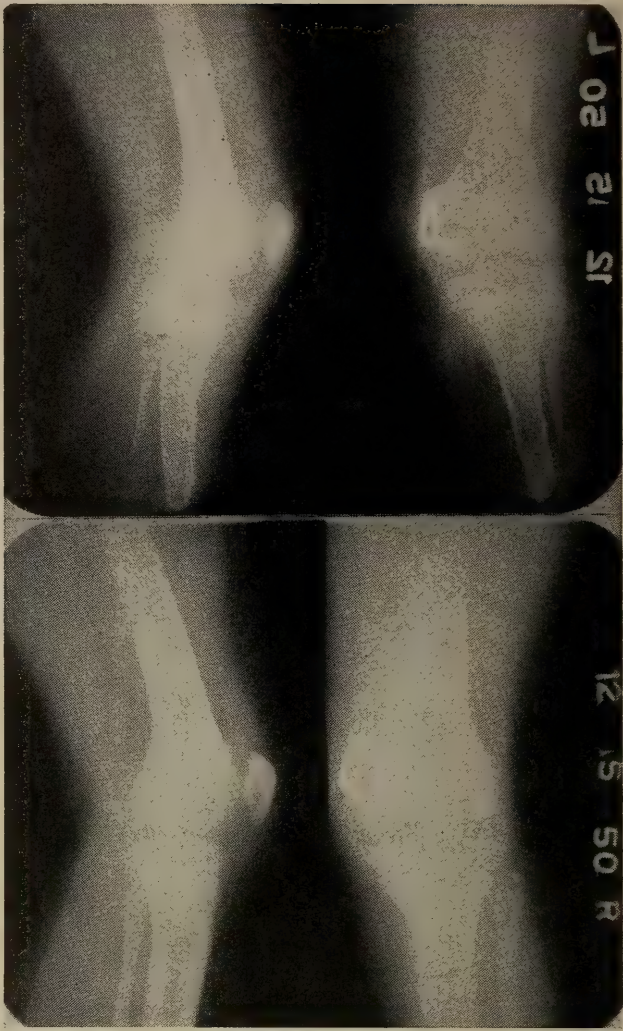


Fig. 11.—X-rays of 8 year old white male with knock knee deformity associated with Van Recklinghauser's disease and pseudo-arthritis of tibia (amputation has previously been done because of the pseudo-arthritis), showing staples bridging distal femoral epiphysis medially.

TABLE IV

Total Number of Cases	35
Male	24
Female	11
Average Age	11.3 Years
Boys	11.8 Years
Girls	11 Years
Youngest	6
Oldest	15

TABLE V

Types of Epiphyseal Arrests Used:	
Blount Staples	27
Curretment of Epiphyseal Plate	5
Reverse Bone Block	3
Sites of Epiphyseal Arrest:	
Femur and Tibia	18
Femur, Only	14
Tibia, Only	3

TABLE VI

Cause for Inequality of Leg Length

Poliomyelitis	16
Osteomyelitis	5
Epiphyseal Injuries	5
Congenital Malformation of Leg	4
Tuberculosis of Hip	3
Congenital Dislocation of Hip	1
Arterio-Venous Fistula	1

Total 35

TABLE VII
Results

Full equalization of leg length or optimum result obtained	18
Failure to gain sufficiently as predicted or expected (greatest discrepancy being 3/4")	8
Failed to obtain any shortening due to epiphyseal arrest at too late an age	4
Too early to evaluate	5

In those cases of knock knees due to over-growth of the medial femoral condyles, staples can be placed across only the medial surface of the distal femoral epiphysis to correct the angular deformity (Figure 10, 11). Similarly, in cases of bow legs due to over-growth of the lateral femoral or tibial condyles, staples can be used in the lateral surfaces of these epiphyses to arrest growth. When the deformities have been corrected the staples can be removed and growth will resume at a normal rate again. Our most satisfactory results to date have been in the four cases of knock knees for which medial femoral epiphyseal arrest was done. In each of these cases full correction was obtained in less than one year. All four have since had the staples removed and we are watching their future progress with considerable interest to see what the ultimate end result will be.

We have had no serious complications in any of these 35 cases. The first case in which epiphyseal staples were used has been our most unsatisfactory result. In this instance, due to an error in judgment, only two staples were used in each side of the femur, with the result that one staple subsequently broke. Only one inch of growth was arrested in 2 1/2 years in this case, due to the improper use of only two staples. There has been no difficulty in regaining motion of the knee, all cases having gained full motion of the knee on the operated side within two months after operation. There have been no complaints of pain in the operated knee after the initial post-operative recovery period. *Our poor results have been in not operating soon enough.* With the knowledge of epiphyseal stapling we have gained in the past 2 1/2 years, we are hopeful of improving our results in the future.

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LOWER NEPHRON NEPHROSIS AND THE ARTIFICIAL KIDNEY —A CASE REPORT*

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The attitude of cautious reserve and pointed questioning which physicians have taken toward clinical use of the artificial kidney has been largely resolved during the past two years in favor of limited acceptance. This gradual integration of opinion toward limited acceptance is due, of course, to the growing number of favorable clinical responses achieved by use of this new therapeutic tool. It has been convincingly demonstrated by a number of workers that the artificial kidney can produce profound changes in the composition of the blood and that these changes can be controlled in a way to benefit the patient in a number of ways. Nonprotein nitrogen blood levels can be reduced, acidosis can be corrected without the undesirable necessity of adding sodium ions to a circulation already overloaded with sodium, and dangerous potassium levels can be easily controlled.

Nevertheless, despite the proved fundamental utility of the various modifications of these machines, they are all in an experimental and rather crude and cumbersome phase of development, and, it follows, the advocates and utilizers thereof are admittedly and necessarily experimenters. Were this not true, there would not now exist any such contrivances at all. Furthermore, successful and reasonably safe external hemodialysis, as the application of the artificial kidney has been designated, requires not only mechanically and chemically adequate apparatus, but also alert, thoughtful supervision by well-trained professional people who believe strongly in the merit of the procedure. In a number of clinics these basic requirements are amply satisfied, with results which justify and encourage continued study of the procedure as a therapeutic measure and serious pursuit of the engineering research necessary for advanced improvements in design, efficiency, and operation. The present non-availability of a superior finished product, suitable for general use, is not valid criticism of the principles and aims of external dialysis.

Having accepted the validity of the theoretical

principle of the artificial kidney, the clinician wishes to know what specific results can be obtained in actual practice. The reported results are impressive. It has been shown repeatedly^{1,2,3,4,5,6,7,8,9,10} that it is possible to depress the circulating nonprotein nitrogenous waste product level and to alter the acid-base ratio of the blood to a degree that readily permits a desperately ill patient to survive a hazardous period of renal suppression. The devastating and relentless progression of uremic poisoning can be halted, and even turned back temporarily toward something approximately life-permitting biochemical balance. When this significant and striking chemical reversal occurs it usually is accompanied by equally fortunate and striking clinical improvement. After a single six-hour period of dialysis the clinical gain may not again deteriorate; rather, it more likely will persist, at lower levels perhaps, until the onset of recovery diuresis⁵.

Reduction of circulating wastes and correction of acidosis do not exhaust the useful ends that can be achieved. Foremost among the ancillary effects of dialysis is the prompt reduction of dangerous hyperkalemia from life-threatening heights of elevation. Merrill⁵ has recently emphasized the grave danger of hyperkalemia and the pressing necessity for correcting this physiologically intolerable contingency early enough in its expanding genesis to prevent imminent and sudden death from cardiac arrest. He also points out that the deadly seriousness of hyperkalemia cannot be accurately ascertained by laboratory determinations of circulating potassium but that this critical complication can be readily discovered by the electrocardiogram. His abundant experience and the experience of others^{5,11,12} seem to prove that a relatively moderate increase in circulating potassium may nevertheless be associated with profound electrocardiographic changes of the gravest import. When potassium intoxication does supervene, Merrill maintains that the patient can be more rapidly and completely extricated from this somber plight by dialysis than by any other method now available. He goes

*No objection to publication on grounds of military security, by authority of the office of Public Information, Department of Defense.

on to say that prompt dialysis when the danger appeared has unquestionably prevented a fatal outcome in a number of his patients.

Other salutary, less easily measured effects of dialysis on patients in advanced uremic states are subsidence of nausea and vomiting, return of a feeling of well-being, and relief from headache, somnolence, and confusion. This highly desirable symptomatic improvement makes easier the task of sound, logical medical management, still the master-plan of treatment. Resuscitation of a stuporous, laboriously and irregularly breathing, apparently moribund patient to a state of mental clarity, alertness, and quiet, orderly respiration after a few hours of dialysis is an impressive and remarkable occurrence which, while not uniformly attainable, is the rule with this treatment⁵.

For all its actually proved, and even its vast potential worth as a powerful therapeutic tool, the artificial kidney has not simplified or essentially altered in any way the fundamental treatment of acute renal suppression. Rather, this new addition to our total resources makes necessary a still more careful appraisal during the critical period of urinary suppression. The causes of death during this period are, in the probable order of frequency, acute pulmonary edema, acidosis, tetany (hypocalcemia), and acute potassium intoxication. The first three causes of death, acute pulmonary edema, acidosis, and tetany, are quite well controlled by elementary measures and techniques which are available in nearly all hospitals, and which require for correct execution little more than an adequate clinical laboratory and good clinical judgment. However, neither the laboratory nor the keenest clinical insight is capable of detecting incipient, yet extremely dangerous potassium intoxication, although this can easily be revealed by the electrocardiogram^{5,11}. Such useful information does not thereby diminish the value of chemical determination of potassium levels, for as a laboratory measuring device the electrocardiogram is worthless, but as an indicator of potassium intoxication it is supreme.

Appended herewith is a case report concerning an Army officer treated at the Peter Bent Brigham Hospital by the artificial kidney, under the supervision of Dr. John P. Merrill of that institution. The writer of this report was merely an interested observer of some of the significant phases of the patient's treatment, and he did not in any way actively par-

ticipate in the events recorded, except during the patient's follow-up studies at the Murphy Army Hospital.

CASE REPORT

A thirty-three year old male officer was admitted to an Army hospital in Puerto Rico on December 30, 1950, with chief complaints of nausea, vomiting and decreased urinary output of three days' duration. The significant facts in his recent history were that on three separate occasions during the week prior to onset of symptoms, at intervals of two days each, he had sprayed his house liberally with carbon tetrachloride, using a total of two and one-half gallons. During this same period he had also consumed seven or eight cans of beer and several whiskey drinks on three or four occasions. Urinary suppression began slowly, then rapidly became alarming, and at the time of the hospital admission three days later was nearly complete.

The past history was essentially negative. Moreover, there had been no recent contact with sick or jaundiced people, no encounter with rats, and no reception of vaccines, sera, or other injections during the preceding six months.

Physical examination revealed a drowsy, well-developed, well-nourished young male adult, with moderate generalized jaundice, but was otherwise essentially negative. Blood pressure was 110/70.

The patient was treated carefully with intravenous fluids according to calculations based on sensible and insensible fluid loss. He continued to vomit, the quantity of vomitus reaching 1600 c.c. per day, drowsiness became deeper, severe oliguria persisted and his general condition gradually and rapidly deteriorated.

Under these ominous circumstances the clinicians responsible for his treatment decided that the patient should be transferred to a hospital where an "artificial kidney" was available. Accordingly, he arrived by air at the Peter Bent Brigham Hospital in Boston on January 4, 1951, five days after his original admission to the hospital in Puerto Rico, and fifteen days after his first contact with carbon tetrachloride.

At this admission, physical examination again revealed generalized moderate jaundice, profound drowsiness, and blood pressure elevated to 155/95. Analysis of the tiny specimen of urine available showed 3+ protein, many W.B.C., a few R.B.C.,

and many granular and cellular casts. The hematocrit reading was 30 per cent, white blood cells 6,000, with 56 per cent polynuclear cells, B.U.N. 79, N.P.N. 129, CO_2 6.5, blood sugar 102, blood chloride 19 mEq/L, sodium 134 mEq/L, potassium 5-3 mEq/L, serum bilirubin 0.9 mg. per cent, alkaline phosphatase 2.2, and phosphorus 3.0 mEq/L. Stool benzidine test was 3+.

X-ray examination of chest showed the heart to be enlarged in the transverse diameter, measuring 151 mm. as compared with the predicted diameter of 127 mm. Serial ECG. showed slight peaking of T waves in the precordial leads, but not beyond normal limits.

Inasmuch as the general condition became progressively worse, stupor deepening, and oliguria unrelenting, treatment by external hemodialysis was instituted on the third hospital day. After six hours the symptomatic and laboratory improvement were striking. The patient became much brighter mentally and the B.U.N. dropped from 117 to 45. However, the temperature which was normal on admission, rose to 102° following dialysis, maintained approximately this level for two days, then returned to normal.

Subsequent to dialysis, the B.U.N. gradually increased to 105 mg. on the ninth hospital day, then reversed its course and gradually fell to 28 at time of discharge. Oliguria persisted until the sixth hospital day, at which time this ominous symptom also began to resolve favorably, the urinary output quickly rising to two liters on the ninth day.

After hemodialysis the patient was placed on a twenty-gram protein and low potassium diet until diuresis set in. Fluids were replaced on a calculated basis, and the patient's weight remained remarkably constant at about 68 kg. until the urinary output passed above oliguric levels, when the weight fell to 65 kg.

Other significant items in his treatment were 1,000 cc. of whole blood, penicillin, vitamins, testosterone propionate for the first week, and digitalis for the first four days.

Two days before discharge BSP showed 10 per cent retention at the end of thirty minutes, and the PSP test showed 60 per cent excretion in two hours. At the time of discharge nineteen days after admission, B.U.N. was 28 mg. per cent, urinary output about 2,000 cc. per day, weight 68.4 kg., blood pressure 130/78, hematocrit 34 per cent. The specific

gravity of the urine was 1.010, and there were no protein, no casts, no R.B.C., and no W.B.C. The patient was ambulatory, cheerful, and feeling quite well.

He was transferred to the Murphy Army Hospital for convalescence and further observation on January 22, 1951. While at Murphy the patient had an attack of influenza, from which he made an uneventful recovery. He also developed a persistent anemia, which did not respond to iron and liver therapy. This was treated by two transfusions of 500 cc. each of whole blood on February 5th and 6th, with good response.

After thirty days of convalescent leave, the patient returned to the Peter Bent Brigham Hospital for follow-up studies. Laboratory studies at this time were as follows: the urine concentrated to a specific gravity of 1.026, B.U.N. was 11 mg. per cent, PSP 15 per cent first fifteen minutes, and 55 per cent in two hours, BSP 4 per cent retention in 30 minutes. Alkaline phosphatase 2-7 (Bodansky units), thymol 1+, hematocrit 31 per cent, sedimentation rate 8, W.B.C. 6,250, with 60 neutrophils, 13 bands, 31 lymphocytes, 1 monocyte, and 5 eosinophiles. The blood smear appeared normal. The stool was negative for blood. Insulin clearance was 85 to 90 cc. per minute and renal plasma flow was 350 cc. per minute. These figures are slightly below normal value. It was Dr. Merrill's opinion that the persistence of anemia was in keeping with the temporary renal disease, and that the prognosis was good.

After two days of observation and study the patient was returned to Murphy Army Hospital on March 21st, where laboratory studies confirmed the Brigham findings of essentially normal renal and liver function. A low hemoglobin of 60 per cent was treated at Murphy by whole blood transfusions, and the patient was returned to full military duty in excellent general condition, three and one-half months after the beginning of his illness.

Final Diagnosis: Acute carbon tetrachloride poisoning with toxic hepatitis and lower nephron nephrosis.

SUMMARY

A patient with severe lower nephron nephrosis and toxic hepatitis, due to carbon tetrachloride, was treated by the artificial kidney, with recovery. Perhaps this patient might have recovered without recourse to dialysis, but in any event this procedure

most certainly was a powerful and welcome aid to his recovery.

It is problematical whether the alcohol intake during the week of exposure to carbon tetrachloride was material to the development of the disease. But regardless of the probabilities in this case, the role of alcohol as a precipitating agent in such circumstances must not be minimized. Indeed, alcohol¹³ in a few well-documented, thoroughly studied instances has been almost positively implicated as an essential auxiliary factor in the causation of acute tubular nephrosis due to carbon tetrachloride, although the difficulties of establishing such a causal relationship must be considerable.

Once, again, attention is called to the fact that carbon tetrachloride vapor is a deadly renal poison as well as a destructive hepatic toxin.

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Interrupt Sympathetic Nerves to Reduce Pain From Cancer.

Severe chest, abdominal or pelvic pain due to advanced malignant disease can be greatly relieved by interruption of the sympathetic nerve paths involved, according to Dr. I. Ridgeway Trimble and Dr. Samuel Morrison of the Johns Hopkins Medical School and the University of Maryland School of Medicine, Baltimore. This can be accomplished by injecting 95 per cent alcohol into the nerves involved, destroying them, or by surgical severance of the nerves affected, the authors stated in the April 5 *Journal of the American Medical Association*.

They reported on 11 cases where relief was obtained by the use of alcohol injections, and one case where relief resulted from severing the nerves, adding:

"Although the relief was not always complete, or

sustained even when at first complete, the improvement was so striking that we believe that in all cases of this sort every effort should be made to determine (1) the sympathetic nerve paths involved in the area of pain and (2) the most expeditious and least harmful manner in which to carry out appropriate sympathetic denervation [interruption of the nerve supply].

The pain, they said, may be due to the effect of the deficient blood supply in the region of the nerve endings because this deficiency renders them hyper-irritable. It may also be due to the chemical changes in the tissues or organs supplied.

The problem of the control of this type of relentless, increasing, often agonizing pain is frequent, according to the authors. Pain relieving drugs, particularly the morphine derivatives, have their place, but the relief offered is brief, and, in many cases, pain reappears with greater severity.

THE NEUROSES OF EVERYDAY LIVING

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There is one characteristic of the American people which probably is a by-product of their need to succeed, namely, a tendency to overdo. If something is considered good, then more would be better—more would be better, and so on until the results are not better but often painful and destructive for the people involved. The thesis of this paper is that when people suffer from such exaggerations their behavior has certain characteristics and that these characteristics are found in all people suffering in such a manner.

This year is especially outstanding because of the presidential election. One group of voters will be vying against another to win. Most of the voters of the country will consider themselves Democrats or Republicans. They will do as the party of their choice instructs them and they will feel as they consider a Republican or a Democrat should feel. They will become members of a group which controls their lives and determines their destinies. The analysis of why a person joins one party and not another would lead us far afield. Indeed, we would have to study the details of each individual's life to determine the reasons for joining and being carried along in any particular mass movement.

There are many group activities similar to political party behavior which influence the lives of everyday Americans. Sometimes the influence works out for the good of the individual involved and sometimes both the individual and the community are injured. Disturbances of health and happiness often follow which may lead to gross behavior disorders in both the individual and the group. The Mental Hygiene Society is interested in the prevention and cure of behavior disorders so it behooves the Society to review the behavior of groups so as to be able to recognize those types of behavior which may become harmful.

Sociologists and social psychologists have been studying the characteristics of groups and group activity for years. They have reached several conclusions regarding the nature of group behavior. According to Kreck and Crutchfield in *The Theory*

and Problems of Social Psychology, a group does not mean a collection of individuals characterized by some similar property. Thus, for example a collection of Republicans or farmers or Negroes, is not a group but a class of people. The term "group" refers to two or more people who bear an explicit psychological relationship to one another. A collection of Republicans working together to win an election becomes a group. A Farmer's Cooperative is a group. The various members exist for each other in some significant way. The criterion that can be applied for recognizing a group is whether or not the behavior of other members in the supposed groups has any direct influence on the behavior of the given individual and whether his behavior has direct effect on the other members. This influence may be slight and vague. It is psychological and not material but is definite enough to be recognizable.

A person, a community, a state or national organization, can act in a manner so distorted and so full of danger that the action must be considered diseased even though no one seems aware of the diseased state. Football as a sport, for instance, has many values both for those who play and for those who watch, yet of late, the game and all that goes with it has become a monster which menaces the integrity of our youth and distorts to an alarming degree the behavior of our colleges and universities. The behavior of some religious sects amounts to a masochistic orgy when self-sacrifice and suffering are exaggerated to an extreme degree. Labor unions have done much for the working man, yet they in turn may evidence abnormal behavior which is a menace to the nation. It may be concluded, I believe, that just as individuals behave at one time in a normal fashion and at another in an abnormal manner, so groups may evidence well balanced behavior at one time, yet at another show most unusual and bizarre conduct. Mass hysteria as seen during mob violence is well known. Nazi Germany was considered to be suffering from a national psychosis. The state of war must appear to the detached observer as international insanity. These conditions could be called group neuroses.

To the individual caught up in such a mass movement, nothing seems to be wrong. This individual attitude of innocence makes it worthwhile to study the situation of that individual caught up in a group when that group has ceased to act in a normal manner. Mass behavior of any sort is composed of individual behavior of a similar nature which is as badly diseased as the group action is diseased. If we observe this individual, however, he shows no signs of suffering. He is not thought to be abnormal by his fellows nor by those who are not caught up in the mass movement. He is not suspected of either neurosis or psychosis.

True neuroses and psychoses are forms of behavior which always arise from within the person and are developed on an individual basis. While a person with a neurotic reaction may be a member of a group, and his neurosis lead him to aid in the group distortion, yet at heart he is anti-social since he wishes to control others by his own methods for his own ends. His reaction is one that cannot be shared with anyone else. He is a person who attempts to solve life's problems in his own individual way by his own techniques. These techniques are often exaggerated to such a degree that they irritate the group. The group shuns, excludes, ostracizes and often attacks this individual who dares too much individuality.

The actions of each of these individuals—namely, the person suffering from an individual neurosis and the person taking part in a group distortion—have many similarities. First, in each there is an exaggeration of a form of behavior beyond the limits of what, to the clear-thinking individual, seems warranted by the circumstances. In the individual neurotic, the pain or the paralysis cannot be explained by anatomical structure or by reasonable disease. In the group distortion, the best interests of the individual are obviously sacrificed beyond the demands of rational needs. Second, both forms of behavior complicate interpersonal relations. In the long run, each tends to make more difficult the ability of people to live together. This trend may lead to infringement on the laws of the land, to the impoverishment of people, or to actual conflicts within individuals, between individuals or groups of individuals. The first type of behavior, when the law is broken, is called criminal. The second, where people are impoverished materially or spiritually, is

often disguised as public welfare or deficit spending. The third form of neurotic behavior, arising from conflict, may be made manifest as symptoms on the individual level, but as race or religious prejudice on the community level, and as war on the international level.

The similarity of individual neurotic behavior and group neurotic behavior is that the cause for the excess is not known to the performer of the action. The neurotic headache is said to come from a bad tooth, but the real cause is the hatred of a mother-in-law. The prejudice against the Jew is said to be because the Jew has all the money in the world, while the real reason is the group's own insecurity and perhaps a need to escape from feelings of self-hate. The cause for war is often said to be for the sake of democracy, while the actual cause is the lack of self-confidence which produces fear and the hate fear engenders.

Finally, causes for this exaggeration common to individuals and to groups of individuals may be understood by both the individual and the mass, yet neither the individual nor the group is able to modify the irritating behavior sufficiently to end the irritation. This represents a resistance to change resulting from the long period of training which produces the abnormal behavior, and from the many secondary gains which accumulate as the creation of the reaction is effected. War offers a very good illustration of this situation. The causes of war are well understood; everyone agrees that war as a technique for solving man's hostility to man is outmoded, yet we live under a constant threat of this form of group psychosis. Besides the awareness of the nature of either form of behavior, there must be a change in the manner of acting out the cause, backed by a determination to get well, before a cure can be accomplished.

The neurosis of the individual caught up in a group exaggeration, and the neurosis which is entirely a result of the individual's own efforts to get along in life, have many differences as well as similarities. One of the outstanding differences is that the perpetrator of group action has no idea that he is sick, nor is he considered to be odd by anyone in his social setting. In fact, he may be looked upon as an example of correct behavior. He may be given medals and promoted by members of the group to places of leadership. The adoration of the group often calls

for senseless selection of such a hero for a position for which he is in no way qualified. Also, persons not entangled in the group distortion consider the behavior of the individuals as acceptable. What is more unreasonable than a mass of rabid individuals of late middle age rushing pell mell over the highways, where death lurks at every turn, just to be in on the "kick-off"? Few would consider these persons neurotic even when they sit out on concrete seats in a blizzard while other men whom they hardly know and can scarcely see, run up and down a frozen field assaulting one another. The causes for this abnormal exaggeration of behavior are also behind the force that makes some college presidents perjure themselves for the sake of winning football teams. No one considers the president's action proper, although it is condoned, while the actions of middle-aged alumni are not questioned. Indeed, the abnormalities of behavior of individuals carried along by groups is so common to everyday living that it is difficult to designate the point at which the disorder becomes a disease. This depends, I believe, not so much on the behavior of the group but on the significance of the behavior to the individual concerned. Therefore, this condition is not a mass neurosis but one of individuals.

A definition that would cover the idea embraced in the discussion given above can now be developed. A neurosis of everyday living occurs when socially accepted behavior is exaggerated to such a degree that it interferes with interpersonal relations and the performer is unaware of the actual cause for his behavior, or if he becomes aware, is unable to modify the exaggeration. In contradistinction to a person with an individual neurosis, the persons showing the reaction do not consider themselves sick. They are not considered sick by the others in the group or by the bystanders who observe their behavior.

The attitude of a large number of individuals toward the game of football represents this form of neurosis. The behavior of many Americans at Christmas offers another example. Keeping up with the Joneses represents another exaggeration that disturbs comfortable living. The influence of labor unions and of big business on interpersonal relations is worthy of study. The mass hysteria on New Year's Eve is an example of a variation in the same disease. Deficit spending could be considered as a neurosis of everyday living at the national level. This un-

reasonable behavior probably develops as an exaggeration because of the long training given the citizens of this country in buying on the installment plan. When the citizens of Virginia are referred to as Democrats, that is a classification. When they elect a candidate, that is normal group behavior. When we as Democrats allow a self-perpetuating organization to control our destinies over a generation in spite of the fact that this organization often acts contrary to our wishes, then we as individuals are suffering from a neurosis of everyday living. War represents the example of an international exaggeration of socially accepted group hostility which is called nationalism. There are many such distortions which affect the lives of us all. Country club life may destroy some individuals. The idea fostered by many merchants that society demands a yearly crop of debutantes is a racket for some, and a neurosis for others. How can we expect to end the abnormal relations between the colored and the white as long as many of our churches draw the color line? Understanding of the causes and effects of such behavior does not help many of these individuals who are swept along in the group. They must be able to act on their knowledge. They must divorce themselves from the group. To do this, they need the support of another group which allows them to act in a less exaggerated fashion.

Alcoholics Anonymous represents such a form of group therapy, organized on the community level, to treat the neurosis of alcoholism. The Interracial Commission is another group treating a neurosis of everyday living by attempting to eliminate race prejudice. The Mental Hygiene Society of Virginia is working as a group to eliminate the misunderstandings of human relationships which produce mental disease. There is the Department of Education, the Alcoholic Beverage Control Board, and the executive organization of the State, acting as groups to eliminate exaggerations of behavior which interfere with interpersonal relationships.

Nationalism is often exaggerated until diseased. Patriotism is a normal human response within narrow limits but soon gets out of bounds to such a degree that it is dangerous. The International Congress of Mental Health recently held in Mexico City represents a form of group therapy aimed at exaggerated nationalism, while the Olympic games and the Davis Cup matches are other forms of therapy

aimed at the same disease. The United Nations is organized primarily to prevent distortions of behavior on the international level. It controls opium traffic, takes new methods of farming to India, etc., besides allowing the different nations to ventilate their hostilities. Thus, there are now in existence many forms of group therapy directed toward the amelioration of the neuroses of everyday living.

One unique American quality is the ability to organize. This quality has made mass production possible and was one of the major reasons for our success in the last war. The ability to organize meets some need of our people, so has led to the formation of thousands of clubs, societies, and other forms of organization throughout the length and breadth of the land. The neuroses of everyday living can best be treated by groups that understand the menace of the neuroses, and therefore can offer an escape into a less exaggerated form of behavior to the individual who has been swept up in a mass movement.

Recently a middle-aged man came into our clinic. He complained that his right arm was paralyzed. The arm hung in a limp fashion. Apparently he could not move it. Also, when the arm was examined further it was found to be anaesthetic to pin prick. Sharp instruments could be driven through the skin while the patient sat smiling. He declared he could not feel any pain. All examinations of the arm failed to show any defect. The blood flow was normal, the nerve supply was normal. Reflex activity was normal. The man was cured rapidly. He left the clinic with a normal arm but he was not quite so happy. In the course of our work with him, it had developed that he hated his wife. She had demanded that he cut wood. His paralyzed arm had enabled him to frustrate her demands. He had unconsciously separated his arm from the rest of his personality so that no will power of his could make it move or feel. In the case of the individual this is known as an hysterical reaction. The arm is said to be blocked off or excluded from the rest of the person. The cause in this case was the hatred and fear of the wife and the determination to frustrate her wishes. There was perhaps, also, a dislike of wood chopping.

In 1865, a constitutional amendment made the colored man a citizen of the United States. The southern states were forced to ratify this amendment. There were many feelings of hatred and hostility

toward their recent deadly enemy who now demanded that their former slaves be recognized as their political and social equals. The acceptance of the demanded role was too much and an hysterical sort of blocking off came into existence known as segregation. By means of this reaction, the citizen was able to exclude the colored man from his life. He didn't exist. He was put in special places that could be ignored. He could not come out of these areas unless he assumed a role of servility or appeasement which might be called the "Uncle Tom Reaction."

Segregation became a fixed pattern of behavior probably initiated because of the hostilities engendered by the War Between the States and by the stupidity of those in charge of the reconstruction period. The colored man of that day was illiterate and dependent. He was totally unprepared for citizenship or to accept a position of social equality. Segregation was a method of defense created by the white man to thwart a hated order and to help solve an intolerable situation. Segregation was accepted by the colored man as an escape from many situations that were embarrassing to him. The similarity of the hysterical blocking off of an arm and the excluding of colored people must be apparent to everyone. Segregation could be called a form of neurosis of everyday living. People of the south are caught up in this reaction and carried along regardless of their own reasons for acting the part assigned them. Certainly they could not be called sick because they act out their roles, yet by doing so, they are perpetuating a form of behavior which is contrary to the fundamental principles of our democracy.

Segregation is like individual neuroses in many ways. The debacle of 1861-1870 may have precipitated the disease, but its roots lie in the distant past. The reason for its present existence is due to outmoded ideas of one sort or another and to secondary gains that accrue to certain individuals thus making it worthwhile to sustain the reaction. As in all other forms of group neurosis, each individual has his own reasons for joining the movement. In one case it is ignorance, another—fear, another—insecurity and another—a shrewd awareness that segregation reduces competition thus making more jobs available to less efficient people. To others, segregation gives a monopoly in certain forms of business.

A certain amount of race prejudice can be con-

sidered normal but when it develops to such a degree as is manifested toward the colored people in the United States, it interferes with interpersonal relations and becomes a neurosis of everyday living. The treatment of this disorder can be attempted by individuals, but group therapy would be much more effective.

The best attack would be at the causes which are grounded in race prejudice. The emphasis should be on democracy and the assault on the false concept that the American is always a Protestant Anglo-Saxon. Although there are many kinds of people, there is only one type of citizen and that is a first class citizen. In the Army, race prejudice was often forgotten because men worked together for a serious cause. Groups devoted to a cause would have no place for prejudice. The ability of persons to get along with each other depends to a large extent on their ability to identify. Their ability to relate depends on their ability to accept qualities of one another. Their relatedness, therefore, depends

on the possibility of their knowing each other as individuals so that they can find acceptable qualities which will permit identification. It is impossible to identify with a stranger, but if that stranger has value in promoting a common cause the strangeness disappears and identification is possible.

The Mental Hygiene Society of Virginia would be an excellent group to initiate the therapy of the neurotic reaction known as segregation. If all members of the Society worked together as a team in the cause of mental health, people would be seen as people and not as colored or white. Therefore, the Mental Hygiene Society in its present program has a great opportunity to step further into the community. It can become more effective by stimulating the many organizations of the state to become interested in the treatment of the neuroses of everyday living. Now is the time to describe these distortions of human behavior so they can be recognized by the active groups. Now is the time to show in what way the groups can apply adequate therapy.

New Books.

We list below the names of some of the newer books at the Tompkins-McCaw Library, Medical College of Virginia, Richmond 19, which may be borrowed under usual library rules:

- Blake—The present state of antibiotic therapy, 1951.
- Conel—The Postnatal development of the human cerebral cortex. Vol. 4. 1951.
- Conn, ed.—Current therapy. 1952.
- Earle—A guide to children's dosages, 1951.
- Grant and Reeve—Observations on the general effects of injury in man, 1951.
- Hampton—Wounds of the extremities in military surgery, 1951.
- Hartwell—Surgery of compounds which have been tested for carcinogenic activity, 2nd ed. 1951.
- Hartwell—Survey of compounds which have been tested for carcinogenic activity. 2nd ed. 1951.
- Husa—Pharmaceutical dispensing. 4th ed. 1951.
- Krantz and Carr—The pharmacologic principles of medical practice, 1949.

- Levine—Clinical heart disease. 4th ed. 1951.
- MacBride—Signs and symptoms. 2nd ed. 1952.
- MacCallum, et al.—Infective hepatitis, 1951.
- Mantell—Adsorption, 2nd ed. 1951.
- Moloney—The battle for mental health, 1952.
- Page—Hypertension. Revised Printing. 1951.
- Smith and Walker—Penicillin decade. 1941-1951. 1951.
- Surgical practice of the Lahey clinic, 1951.
- Sutton and Sutton—Handbook of diseases of the skin. 1949.
- Welch and Lewis—Antibiotic therapy. 1951.
- Woolley—A study of antimetabolites. 1952.

AMA to Set Up Socio-Economic Files.

The AMA plans to centralize its medical socio-economic files in the near future. At its last meeting, the Board of Trustees authorized the appointment of an assistant librarian to assemble and catalog this material from the various councils, committees and bureaus of the Association. Eventually a complete history of AMA policies and attitudes will be compiled from this source.

NON-TRAUMATIC GAS GANGRENE

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and

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Although gas gangrene is a well known clinical disease entity when associated with traumatic lesions, particularly war wounds, it is not generally appreciated that clostridial infections may supervene in non-traumatic "medical disease". That this complication is not rare is illustrated by the fact that the following four cases were observed at the Norfolk General Hospital within a period of less than a year.

CASE REPORT

Case 1. The patient was a 62 year old white female, who was admitted to Norfolk General Hospital in September, 1950. She had been seen by her physician the night prior to admission and had complained of vague pains in her left shoulder. The next morning she could not be aroused. On examination in the hospital the patient was in a semi-comatose state and no blood pressure or pulse was obtainable. The heart sounds were faint, the apical rate was 100, and there were runs of extrasystoles. On abdominal palpation, there was an orange-sized, fairly movable, mass in the right lower quadrant.



Fig. 1.—(Case 1).—Note the edema and discoloration of the left arm and right hand.

The most striking findings were in the skin and musculature. The left upper arm was swollen, tense and deeply discolored with a bluish tinge. There was palpable crepitation over the area. During her short hospital stay there was a visibly rapid spread-

ing of the bluish discoloration and crepitation to involve the right hand and part of the left anterior chest wall (Figure 1). Tissue fluid aspirated from the left arm revealed gram positive rods morphologically resembling *Clostridium welchii*. She was placed on therapy but failed to respond and expired three hours after hospital admission.

Autopsy revealed that the patient had an adenocarcinoma of the cecum with retroperitoneal perforation, and necrosis and crepitation of the retroperitoneal tissues. The involved portions of the arms and chest wall also showed necrosis, edema, and crepitation, and microscopic sections of the lungs revealed organisms compatible with *Clostridium welchii*. The organism was grown in cultures from the involved areas.

Case 2. The patient was a 52 year old white male, treated for six months prior to admission for a refractory anemia of uncertain nature. He was admitted in July, 1951, with a history of having a severe pain in his left thigh the night before admission. When he was seen in the hospital early the



Fig. 2.—(Case 2).—The thigh is markedly swollen with areas of discoloration. Large hemorrhagic blebs are present.

next morning the patient was in a semi-comatose state with a blood pressure of 60/50. The physical examination was essentially negative except for a visibly spreading cyanosis, edema, and crepitation

over the left flank and thigh. The patient failed rapidly and he expired one hour after admission.

Autopsy revealed hemorrhagic blebs over the left thigh (Figure 2) and massive necrosis, edema and crepitation of the left thigh, left buttock, penis and scrotum. There was also bloody pleural and pericardial fluid. Culture of the skin blebs revealed *Clostridium welchii* and these organisms were also identified in the lung on microscopic examination. No portal of entry for the organism was found.

Case 3. The patient was a newborn white male infant who, soon after birth, exhibited signs and symptoms of acute intestinal obstruction. The day of birth an ileo-colostomy was done for congenital atresia of the lower ileum. Post operatively the patient continued to show signs of intestinal obstruction and six days later had an ileo-sigmoid colostomy performed. He expired two days later.

Autopsy revealed gangrene of the ascending colon with crepitation of the bowel, mesentery, and liver (Figure 3).

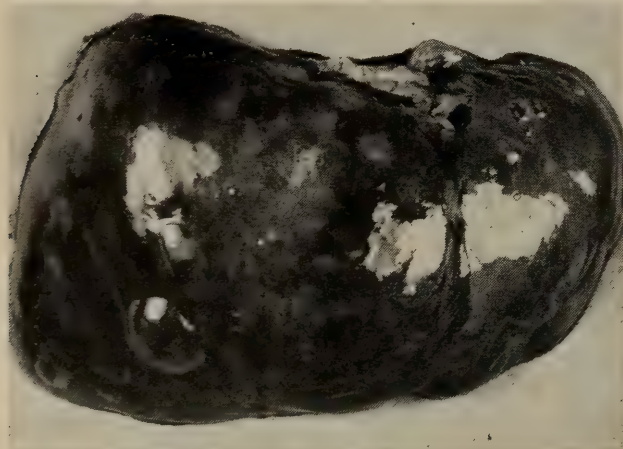


Fig. 3.—(Case 3).—The liver contains innumerable gas bubbles of varying size. A large bleb is on the surface.

Case 4. The patient was a 53 year old colored male who was admitted to Norfolk General Hospital in September, 1950, with a diabetic ulcer of the right toe of eight weeks duration. The patient was a known diabetic of fifteen years duration but had failed to receive insulin for two days prior to admission. On admission the patient was acutely ill and in diabetic acidosis. On examination the right toe was gangrenous and there was swelling and crepitation over the dorsum of the foot. Smear and culture of this area revealed *Clostridium welchii*. The patient was placed on insulin, fluids, large doses of penicillin and gas gangrene antitoxin. Three days

after admission a subastragalar amputation was done. With the infection gone, the patient's course became much smoother and six days later a lower leg amputation was done. The patient's post-operative course was uneventful and he was discharged with no evidence of infection.

DISCUSSION

Clostridial infections are conveniently divided into two groups¹: (1) Clostridial myositis, and (2) clostridial cellulitis.

Clostridial myositis, which is illustrated by cases 1, 2, and 3, consists of growth of the organisms in dead muscle. From this focus, exotoxins cause necrosis of adjacent muscle, and spread of the bacillus progresses as the necrotizing process advances. The process is accompanied by a profound toxemia with circulatory collapse, a severe anemia, early onset of coma, and a rapidly fatal course.

The source of the organisms in cases 1 and 3 seems almost certainly to be the intestinal tract. It has been shown that *Clostridium welchii* is uniformly present in human feces². In case 2, the source of the organism is not apparent and one can only speculate on the possibility of an externally introduced contaminant which remained dormant until activated by certain conditions favorable to growth of the organism. It has been shown that infection may not occur until ten years after contamination³. It has been amply demonstrated in traumatic cases that wounds may be contaminated by clostridia, yet free of clostridial infection. In several series³ ten to forty per cent of wounds were contaminated by clostridia, but only three-tenths to five and two-tenths per cent developed infections. It is obvious, therefore, that certain predisposing factors must be present before infections occur. Chief among these are: (1) tissue hypoxemia and (2) foreign material^{1,4,5,6,7}. All three cases of clostridial myositis presented had hypoxemia of the gangrenous tissues. In case 1 there was circulatory collapse secondary to a perforated cecal carcinoma. In case 2, there was a severe anemia likewise producing generalized tissue hypoxemia. In case 3 there was actual necrosis of the bowel owing to interference with its blood supply.

Foreign material in the form of feces was present in the tissues in cases 1 and 3. In case 2 there is no evidence that foreign material was present.

Clostridial cellulitis, which is illustrated by case

4, consists of the spreading through tissue planes of an exudate containing the clostridial organisms. There may or may not be gas production, but the necrotizing change in muscle is not prominent, and the profound toxicity of clostridial myositis is absent. In case 4, the source of the organisms was probably external through the long standing ulcer. The predisposing factor of tissue hypoxemia resulted from severe arteriosclerosis of the leg vessels. The poor resistance to infection which characterizes diabetes mellitus may also have favored extension of the process.

The clinical course in the cellulitis type of clostridial infection is relatively benign compared to the fulminating nature of the diffuse clostridial myositis. Although the diagnosis was made antemortem in cases 1 and 2 and the proper therapy instituted, the course was so rapid that treatment was of no avail, and the patients expired respectively three hours and one hour after hospital admission.

In case 4, although the patient was admitted in severe diabetic acidosis, the prompt administration of large doses of penicillin and gas gangrene antitoxin kept the lesion localized until the diabetic condition of the patient was stabilized sufficiently to allow surgical removal of the lesion. The therapy of lesions of this type does not differ in its essentials from the rec-

ognized therapy of gas gangrene associated with trauma.

SUMMARY

Four cases of non-traumatic gas gangrene have been presented and the frequency of the condition stressed. The predisposing factors and source of the organisms are discussed. The distinction between clostridial myositis and clostridial cellulitis and the difference in clinical course and response to therapy of these two entities is considered.

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Proper Medical Management of Older Worker Necessary.

With proper medical management by industry, employees over 40 years of age can be satisfactorily employed, in the opinion of Dr. Rufus B. Crain, medical director of the Kodak Office and Camera Works, Eastman Kodak Company, Rochester, N. Y.

In an article in the current Archives of Industrial Hygiene and Occupational Medicine, published by the American Medical Association, Dr. Crain told

how his company manages its 30,000 workers, 39 per cent of whom are over 40.

One of the most essential elements for proper management of the older employee is selective job placement, according to Dr. Crain. If this is correctly done, employees with such impairments as heart and blood vessel diseases, diabetes, arthritis, arrested pulmonary tuberculosis, amputations, and defective hearing and vision will prove as efficient as employees without such afflictions.

CHLOROMYCETIN PALMITATE— CLINICAL EVALUATION IN ALLERGIC AND NON-ALLERGIC CHILDREN AND ADULTS*

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This study was prompted by the appreciation of the necessity of having a liquid form of Chloromycetin for administration to those patients who are unable to take the crystalline or capsular form. Chloromycetin Palmitate is a palatable liquid suspension composed of propylene glycol, carbowax 1000 monostearate, sucrose, sodium carboxy-methylcellulose, alcohol and flavoring and contains 250 mg. of the ester, or 125 mg. of Chloromycetin in 4 cc. The terminal hydroxol group of the propane diol side chain has been replaced with an ester group which contains 57.6 per cent of Chloromycetin.

Chloromycetin Palmitate is less toxic than the crystalline Chloromycetin for mice, rats, and dogs in a ratio of approximately two to one. Adults who have received as much as 200 mg. per kilogram twice daily for ten days showed no systemic, neurologic, hematologic or urinary dysfunctions.

In the animal experimentation, approximately 1.5 per cent of the ester is excreted in the urine of the dog in an unchanged form. It has been noted that Chloromycetin continues to be excreted in the urine for a considerable period of time after a low blood level has been reached. This would indicate that the absorption of Chloromycetin and its deposition in the tissues occurs rapidly, followed by a slow, continuous release.

The liquid Chloromycetin, in itself, possesses practically no antibiotic effect until it is hydrolyzed. Thus, the rate of hydrolysis of the ester to the free alcohol form, Chloramphenicol, determines the antibiotic action of the palmitate. Numerous factors determine the rate and degree of decomposition, the most important of which is possibly the emulsifica-

tion through the action of bile and the splitting action of intestinal lipases.¹

We will, in no way, attempt to review the literature on the subject of crystalline Chloromycetin and its correlation with other antibiotics.

CLINICAL STUDY

The 250 patients studied are divided into two groups, the first, a pediatric group with ages varying from three months to ten years. These patients were taken from an active clinical pediatric practice. In certain instances an allergic factor was considered but the majority of the patients were non-allergic.

The second group was comprised of patients selected from a practice limited to allergy and internal medicine.

This is primarily a clinical study and we have not attempted in any way to leave that level. In very few instances did we carry out bacterial sensitivity tests with Chloromycetin discs. In those patients in which sensitivity studies were carried out, a parallel was noted in the clinical and bacteriological studies.

Table 1 shows that of 250 cases treated, 194, or 77.6 per cent, were improved. This table represents the total number of cases treated which encompasses 25 different clinical impressions or diagnoses.

Respiratory manifestations were seen in 212 cases: 108 were diagnosed as La Grippe; 28 as bronchitis; 30 acute upper respiratory infections; 21 tonsillitis; 6 laryngotracheobronchitis; 2 broncho-pneumonia; 14 asthmatic bronchitis; one sinusitis and bronchitis; one otitis media, and one pneumonitis with pulmonary infarction.

One hundred and eight cases of La Grippe were treated with a high percentage showing a satisfactory improvement following the administration of the drug. One must remember that in the treatment of La Grippe by nonspecific measures, many patients may improve without antibiotic therapy. There have

*The drug for this study was supplied through the courtesy of Dr. E. A. Sharp, Director, Department of Clinical Research, Parke-Davis and Co.

Presented before the annual meeting of the Medical Society of Virginia, at Virginia Beach, October 7-11, 1951.

1. Personal communication Parke-Davis and Company.

Table I
250 CASES ARE GROUPED ACCORDING TO CLINICAL DIAGNOSIS AND RESPONSE TO TREATMENT

CLINICAL DIAGNOSIS	No. of Cases	Im- proved	Unim- proved
La Grippe -----	108	97	11
Bronchitis -----	28	24	4
Upper Respiratory Infection -----	30	25	5
Tonsillitis -----	21	14	7
Whooping Cough -----	5	0	5
Measles -----	6	0	6
Measles and Otitis Media -----	1	1	0
Laryngotracheobronchitis -----	6	4	2
Broncho-pneumonia -----	2	1	1
Asthmatic Bronchitis -----	14	11	3
Sinusitis and Bronchitis -----	1	1	0
Roseola -----	3	0	3
Nonspecific Stomatitis -----	4	1	3
Diarrhea -----	2	2	0
Otitis Media -----	1	1	0
Impetigo -----	1	1	0
Contact or Atopic Dermatitis with Pyoderma -----	5	5	0
Dermatophytid with Pyoderma -----	4	2	2
Urticaria and Angioneurotic Edema with Infection -----	1	0	1
Pruritus Vulvae and Ani with Pyoderma -----	2	2	0
Acute Cystitis -----	1	1	0
Pneumonitis with Pulmonary Infarct -----	1	0	1
Thrombocytopenic Purpura -----	1	0	1
Infectious Mononucleosis -----	1	0	1
Pyelitis Associated with Renal calculus -----	1	1	0
TOTALS -----	250	194 77.6%	56 22.4%

been very few complications shown by the group and this is likely explained by the absence of secondary infection controlled by the drug.

In the treatment of asthmatic bronchitis, the results were satisfactory as related to the severity and length of illness.

Skin manifestations represented 13 cases which included 5 contact or atopic dermatitis with pyoderma; 4 dermatophytids; one impetigo with pyoderma; two pruritus ani and vulvae with pyoderma, and one urticaria and angioneurotic edema with secondary infection.

The consideration of the dermatologic manifestations was primarily for the control of the secondary pyoderma. Some of the patients showed a general toxic, constitutional reaction to the infection; however, the majority did not. The two most startling cases were those of pruritus vulvae in which the pyoderma was controlled quite rapidly.

Communicable diseases comprising 15 cases were grouped as follows: whooping cough, 5; measles, 6; roseola, 3; measles with otitis media, one.

The miscellaneous group was represented by 4 cases of nonspecific stomatitis of probable viral etiology; 2 of diarrhea; one acute cystitis; one thrombocy-

topenic purpura; one infectious mononucleosis, and one pyelitis with renal calculi.

Two cases of clinical infectious diarrhea included in the miscellaneous group were treated previously by other specific therapy from which they did not respond. Chloromycetin Palmitate was administered and one patient who had had nausea and vomiting with previous other medications tolerated the drug. Stool cultures were not done in either case.

The response of these patients to treatment is grouped according to "Improved" or "Unimproved." There was no definite designation as to whether the patient had a fair, good or excellent response. If there was any question of improvement, it was designated as "unimproved."

Of the 250 cases represented by this study, 56, or 22.4 per cent, were "unimproved." In this group are included 5 cases of whooping cough. Payne *et al*,^{2,3} have shown by controlled studies that Chloromycetin is of value in the treatment of whooping cough. The unfavorable response found here may be due to a small series and the fact that the diagnosis

2. Payne, E. H., *et al*. Pertussis Treated with Chloramphenicol, J.A.M.A. 141:1298, Dec. 31, 1949.

3. Payne, *et al*. Chloromycetin as A Treatment of Pertussis, J. Mich. St. M. Soc. 49-450, Apr., '50.

was clinical without laboratory confirmation. One appreciates that the definite diagnosis of whooping cough is most difficult under optimum conditions. As would be expected, the patients having roseola and measles did not respond.

Table II shows the dosage used according to age.

cent, of the 250 cases treated. These reactions were characterized by nausea and vomiting. One reaction occurred in the group of 27 with a dosage of 40 mg./lb. in the age group 1-3 years; and 2 out of 47 who received 80 mg./lb. in the age group 3-5 years. There were 2 cases in the pediatric group not in-

Table II
A COMPARISON IS MADE BETWEEN AGE, DOSAGE, AND TOLERANCE

DOSAGE	AGE (IN DECADES)											Total
	3-6 Mos.	6 Mos. 1 Yr.	1-3 Yrs.	3-5 Yrs.	5-10 Yrs.	2	3	4	5	6	7	
40 mg./lb.-----	2	8	27	10	7							54
80 mg./lb.-----	6	16	60	47	28	1						156
1-1.9 gm./day-----		1	2	2	3	1		3		1	1	14
2-2.9 gm./day-----							1	4	2			7
3 gms. or more-----					1	2	3	4	5	1	3	19
TOTAL-----	8	25	89	59	37	4	4	11	7	2	4	250

In the pediatric group, a scale of 40 or 80 mg. per pound was set up, and in the older group, the dosage was set up on the basis of a total dosage of from one to 3 gms. during a 24 hour period.

In a group of 210 cases, 54 received a dosage of 40 mg./lb., and in 156 instances, 80 mg./lb.

Fourteen cases received a total 24 hour dosage of 1—1.9 gms., and 7 cases received 2—2.9 gms. per 24 hours. There were 18 who received 3 gms. or more. One patient tolerated 6 gms. daily without any reaction.

cluded in this study who refused to take the drug.

Table III reveals that 222 received the drug for a period not longer than five days. Of these, 146 received 80 mg./lb. Twenty-six patients were treated from 6 to 14 days and 2 patients for a period longer than two weeks.

SUMMARY AND CONCLUSIONS

1. Two hundred and fifty patients in the pediatric and adult age groups were given Chloromycetin Palmitate, a new palatable suspension of Chloromycetin.
2. This study represents group divisions as follows:

Table III
A CORRELATION OF DURATION OF THERAPY AND DOSAGE

DOSAGE	DURATION		
	1-5 Days	6-14 Days	14 or More Days
40 mg./lb.-----	48	6	0
80 mg./lb.-----	146	10	0
1-1.9 gms./24 hrs.-----	13	1	0
2-2.9 gms./24 hrs.-----	4	2	1
3 gms. or over-----	11	7	1
TOTAL-----	222	26	2

The largest number of cases, 148, were seen in the age group, one to five years; 89 between one and three years, and 59 between three and five years. Thirty-three cases were less than one year old, eight of which were under six months, leaving 25 in the group six to twelve months.

Reactions were noted in only three, or 1.2 per

cent, of the cases. Reactions were noted in only three, or 1.2 per cent, of the cases treated. These reactions were characterized by nausea and vomiting. One reaction occurred in the group of 27 with a dosage of 40 mg./lb. in the age group 1-3 years; and 2 out of 47 who received 80 mg./lb. in the age group 3-5 years. There were 2 cases in the pediatric group not in-

cluded in this study who refused to take the drug. Table III reveals that 222 received the drug for a period not longer than five days. Of these, 146 received 80 mg./lb. Twenty-six patients were treated from 6 to 14 days and 2 patients for a period longer than two weeks.

3. A correlation was made relative to the age, dosage and tolerance, and, in addition, the dosage was also correlated with the duration of therapy.

5. Reactions were negligible and the palatability of the drug was excellent.

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,

Commissioner, Department of Mental Hygiene and Hospitals

The Neurotic Patient*

One of the problems that faces almost every physician is presented by the relatively large number of patients who come to him with complaints in explanation of which he can find nothing on either physical or laboratory examination. He is not merely puzzled by them—he is frustrated, defeated and, far too often, angered. He wants to be helpful but there is nothing in his armamentarium of drugs and physical therapy that will help. The result is too frequently that the patient is dismissed with the diagnosis of “neurotic” or “hysterical”, used unfortunately as a term of derision.

But we cannot dismiss these people so lightly. They are sick persons who come to their doctors for help. Can we turn them away? To do so is only to drive them to the irregular practitioner, the osteopath, the chiropractor or the faith healer. The giving of a placebo, or of some treatment merely for the sake of doing something, gives no relief and leads to the same result.

If we are to help these patients we must first of all recognize that emotional illness is real illness. Whether we call it neurosis, psychosomatic disease or conversion hysteria, it is sickness. The complaints which bring the patient to the doctor's consulting room are real. They are just as real as though they were on a physical basis and just as deserving of adequate and understanding care and attention. It is necessary to emphasize this point because a proper attitude on the part of the physician is absolutely necessary if help is to be given. Otherwise, there is great danger of doing more harm than good.

If harm to the patient is to be avoided, great care must be taken not to place him in a position where his self-respect is challenged and where he must needs prove more emphatically than ever that he is ill. A man or woman who is told that his illness is “imaginary” or “all in his head” takes such a statement as a challenge to his integrity and to his good sense. He knows that he has subjective symptoms.

It is for help with them that he came to the doctor. To him they mean illness, even though he may have no recognition that the illness is emotional. When his integrity is challenged by the use of a derisive term, he must find an honorable way out. To be well would be an admission of something which he or others might regard as shameful. If, on the other hand, his illness becomes worse, his feeling that he is really sick is justified not only to others but also, and more important, to himself. It is the only way out without loss of “face”. The physician who challenged the reality of the illness and forced this situation has thus actually made the patient worse rather than better. This is not good treatment.

If we are to take a rational attitude toward the neurotic patient, we must strenuously avoid thinking of him as a faker. The person who consciously claims symptoms which are not really present is a malingerer. He really is a fake. He is totally different from the patient suffering from a neurotic condition whose symptoms, whatever the objective findings may be, are subjectively very real and whose mental mechanisms are wholly unconscious. Nor would it be correct to say that even unconsciously the neurotic person has elaborated symptoms which aim to convince his family, his friends, his associates or even his doctor that he is ill. On the contrary, neurotic symptoms are primarily for the benefit of the patient himself. They are his method of meeting an intolerable situation, of compromising between conflicting needs. If he is “fooling” anybody, it is himself. Only the physician who understands this and accepts it as part of his thinking can be sure to avoid doing or saying something that will retard rather than accelerate the patient's improvement.

Many of the diagnoses of neurotic conditions are unsatisfactory because they are diagnoses by exclusion only. A patient comes to his doctor with complaints which might be based on one or more types of physical pathology. A thorough physical examination is made but no pathology is found of a nature to explain the subjective symptoms. Laboratory studies are then ordered, again without sufficient positive

*Article prepared by Gilbert J. Rich, Ph.D., M.D., Psychiatrist-Director, Roanoke Guidance Center, Roanoke, Virginia.

findings to explain the complaints. The busy practitioner, not knowing what else to do, calls the illness neurotic. Having excluded physical pathology, he reasons, it must be emotional in nature. This is a diagnosis of a positive condition merely by exclusion. Is it adequate for good medical care?

The answer should be in the negative. A complete study of a patient suffering from a neurotic illness should lead to a positive diagnosis of the neurosis. This is not impossible, even for the physician who does not specialize in psychiatry. There are a number of possible findings which might lead to a positive diagnosis. One may be the nature of the patient's complaints. Those of the neurotic patient are often bizarre and unusual. They present an unusual picture, one that does not fit into any syndrome. Perhaps this may be illustrated by an extreme and rare example. An hysterical (conversion) anaesthesia or paralysis will involve not areas or muscles innervated from a common source such as a peripheral nerve or a spinal segment, but will involve instead a part of the body commonly thought of as a unit, such as a hand, an arm, a foot, etc. Another characteristic of the symptomatology of some of these patients is to be found in its variability. The complaints differ from visit to visit, or multiple complaints may easily be elicited by leading questions.

A still more adequate basis for a positive diagnosis of an emotional condition is the finding of an adequate cause. This means that the doctor must take the time to talk with the patient about his life, his problems, his worries and his hopes. Quite frequently, there will gradually appear a situation of great difficulty for the patient to which his illness has offered a solution. It is now possible to say that the illness is a neurosis because it definitely meets a neurotic need. In reaching such an understanding, however, the doctor must look at each situation from the patient's point of view, not from his own. We cannot safely assume that illness is worse for the patient than would be facing his problem just because this would be true for us. To many people there are far worse things than being sick, such as failure at one's job, unemployment, failure to make a success of marriage, social ostracism, and so on.

What can the doctor do to help these people? He will doubtless refer the more serious cases to someone with psychiatric training. However, there are not enough psychiatrists to care for all persons suffering from neurosis; they are beyond the means of many; and a large group of patients could not be induced to consult one. The general practitioner as well as the specialist in many fields sees the neurotic condition in its early stages when a little help may well prevent it from becoming more serious. The first step is scrupulously to avoid doing anything that will exacerbate the conditions. The need to keep from any statement that would challenge the patient's self-respect has already been mentioned. There is likewise danger in taking the symptoms too seriously. An overly long work-up with a multitude of laboratory studies may in the end convince the patient that he is a very ill person. Eventually, a state of chronic mental invalidism may be reached. This, unfortunately, is often a condition which is resistant to any type of treatment. A middle-of-the-road type of management is necessary.

On the positive side, real help may be given by providing the patient with an opportunity to talk fully and freely about himself and his anxieties, worries, feelings of guilt, etc., to a person in whom confidence is reposed. It is, of course, most important that the doctor's attitude be one of acceptance. No matter what the patient says, there must be no blame or censure. The physician never sits in judgment, but merely listens as a trusted confidante.

But, you may ask, is this a doctor's task unless he is a psychiatrist? The answer depends upon our conception of our responsibilities. If we are to relieve suffering, must we not help whenever and in whatever form we find it? Can we limit our ministrations to those who can be aided by drugs, surgery or physiotherapy? The psychiatrist seldom sees a neurotic patient until the illness has been aggravated by the passage of time and has reached the point where therapy is difficult, time-consuming and expensive. Men in other fields, especially the family doctors, see these people in the early stages of the illness when a little help may well give relief. Failure to meet this challenge is a failure to do all that one can for the patient.

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.,
State Health Commissioner of Virginia

More Wonder Drugs Reported for Tuberculosis*

According to highly encouraging preliminary reports on dramatic clinical results obtained during the past six months with certain derivatives of isonicotinic acid in treatment of tuberculosis, it would appear that streptomycin and PAS, scarcely beyond the stage of "adolescence" themselves, must prepare to share the limelight, at least temporarily, perhaps in time, to be totally eclipsed, by these newly heralded "infant prodigies."

Seldom has there been so much talk about a subject concerning which so little is known. This is perfectly understandable, however, when one reflects upon the many, many weary years of wishful thinking humanity has directed toward ultimate discovery of a sure-cure for tuberculosis that could be taken like candy—as can these drugs.

As much as premature publicity is to be deplored, once a release of this character has become a "fait accompli", an obligation is placed upon those whose official responsibility is public health, to summarize available information and to attempt to evaluate published data in terms of significant accomplishment to date, and in the light of future potentiality, so that all may be in a position to regard the drugs objectively and perhaps in an at least somewhat more nearly correct perspective.

Activity of the new drugs, in the laboratory, in vitro and in vivo, as well as their early effect upon the clinical course of approximately 200 patients, has been summarized hurriedly by the Public Health Service and the National Tuberculosis Association, and by the producing drug firms. Formal detailed preliminary accounts on all phases of the several investigations underway will appear in the current (April) issues of the "American Review of Tuberculosis" and "Diseases of the Chest" to supplement a special issue of the "Quarterly Bulletin of the Sea

View Hospital", dated January, 1952, devoted exclusively to this subject.

According to physicians at the Sea View Hospital, in New York, the most spectacular effect of the drugs is the striking improvements in symptomatology. In a group of 92 cases observed over a period of from 4-15 weeks, fever came down promptly (within two weeks) without exception; cough and expectoration disappeared or markedly diminished; appetite changed from poor to "ravenous"; amazingly, previously "toxicity-drugged" intestinal tracts and metabolic systems immediately responded to sudden deluges of food without faltering. Gains in weight of as many as 10 pounds in one week, 50 pounds in two months, were recorded (*all* patients had previously been losing weight steadily).

Sputum became converted by direct examination in 25% of cases, markedly reduced by Gaffky count in another 29%. Character and volume of sputum were also changed for the better.

Patients' strength returned—apparently converting whole wards from "bed-fast" to "ambulatory" status.

X-rays showed some clearing of resorbable pathology; however, only two cavities apparently closed out of approximately 30; one questionable cavity appeared at the site of a previous exudate.

Sinuses in extrapulmonary lesions closed or drainage greatly subsided.

The new drugs are not "sure-cures" in and of themselves—at least not for a large, perhaps major portion of cases as diagnosed and treated in the past, and which all too commonly are thought of today as "typical" of pulmonary tuberculosis, i.e., advanced, heavily communicable, with cavity, unresorbable caseation and all the trimmings.

No matter how tuberculocidal the drugs may prove to be, to an improbable point where the last tubercle bacillus has been liquidated in its host, there undoubtedly will remain a tremendous amount of "mopping up" to be done surgically upon known

*Rimi'on and Marsalid—Hoffman-LaRoche. Nydrazid—Squibb.

cases as well as upon thousands yet to be diagnosed. Some patients will never be restored physiologically by virtue of residual irreversible cardiac or respiratory deficiencies which have resulted *from* tuberculosis.

It has not been demonstrated that the cases so far studied have been rendered non-communicable (first cultures have yet to be reported on those whose sputum is no longer grossly positive). While reports indicate that it apparently has not always been possible to recover tubercle bacilli at autopsy from treated animals in the laboratory, the infection which must be overcome by therapeutic agents in *freshly* inoculated animals, is a very different problem from that of coping with chronically established foci of the re-infection type most commonly encountered in man, regardless of the stage of the disease in the latter. Moreover, experience generally has shown repeatedly that response to drugs in man does not necessarily parallel that in animals.

To date, nothing has been published on even the early effect of the drugs upon patients whose disease consists of lesions which are overwhelmingly exudative in type, whether primary or reinfection. These lesions have long been known to be completely "reversible", i.e., anatomically *capable* of total re-sorption almost without trace. Long term response of this group, and of minimal and/or early cases

generally, will go a long way to provide the key to final evaluation of the drugs.

The drugs may be taken orally, are rapidly absorbed, and are readily excreted, mostly through the kidneys. Nothing is known about later toxic effects (insignificant to date), or possible ultimate development of resistant strains (none as yet noted), information about both of which should be ascertained as completely as possible, before the drug is released for general use.

Nothing could be more shortsighted and foolhardy (on the basis of present knowledge or in anticipation of that likely to be forthcoming in the next few months or years) than to let up by one iota full support, and planned expansion, of current tuberculosis eradication programs, predicated as they are upon presently known, time-tested procedures of diagnosis and treatment. There is plenty of room *now* for a new useful adjuvant to treatment. There will be plenty of time later to calmly, dispassionately, and intelligently readjust tuberculosis control programs in whatever direction and to whatever degree may be required to take maximum advantage of the emergence of a true specific, if and when such is found and *proven* to be as represented.

Dosages of the drugs have not been discussed because of lack of space and because the drugs are not yet available commercially. They will be reasonably priced.

MISCELLANEOUS

Virginia Public Relations Conference
(State Chamber and Richmond PR Association)

A well-attended Virginia Public Relations Conference convened March 20, 1952, at the Commonwealth Club in Richmond. The Medical Society of Virginia was represented.

Keynoting this Thursday night session, Ed Lipscomb, Director of Public Relations for the National Cotton Council and President of the Public Relations Society of America, labeled the government "PR Job No. 1". Dismayed by the popular "What can I do?", Mr. Lipscomb emphatically subscribed to the belief that public opinion is the sum total of private opinion and urged every sincere citizen to conduct a public relations campaign in his own realm of influence. We demand government frugality until our

personal pocket feels the pinch, concluded the public affairs expert.

With open forums and workshops scheduled, the conference moved to the Richmond Hotel Friday, March 21. Representatives of advertising, newspapers, radio, television, and industrial publications commented briefly on their respective experiences in dealing with public opinion. A multitude of audience questions served well to demonstrate the wide divergence of interests and concepts in the public relations field. Profound effectiveness of television as an opinion-molding medium was reported.

Experts dealt with various problems encountered in preparing materials for readable and impressive publications. Practical aspects of printing and engraving were also discussed.

The conference emphasized the increasing importance and need of sound public relations in virtually any business or professional undertaking.

WOMAN'S AUXILIARY
TO
THE MEDICAL SOCIETY OF VIRGINIA

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Southwestern Virginia Auxiliary.

The Woman's Auxiliary to the Southwestern Virginia Medical Society met at Maple Shade Inn, Pulaski, Va., April 3, 1952. Twenty-five present.

The president, Mrs. W. C. Caudill, Pearisburg, presided.

The routine business was transacted and reports of various committees given.

A committee was named to study the advisability of a Nurses' Scholarship Fund as a new project for the Auxiliary.

The guest speakers were Mrs. Herman Farber, President of the Woman's Auxiliary to The Medical Society of Virginia, who spoke on the organization and work of the Auxiliary, and Mrs. R. M. Reynolds, member of the National Speakers' Bureau, who gave the history of socialized medicine and our part in helping to combat it.

ANNIE E. COX (Mrs. J. G.)
Recording Secretary

BOOK REVIEW

Doctors in Blue; the Medical History of the Union Army in the Civil War. By GEORGE WORTHINGTON ADAMS. 1952. H. Schuman. New York. xii, 253 p. Illustrated. Price \$4.00.

The Civil War came at the most uninteresting period of medical history. It is true that there was anesthesia, but there was no knowledge of bacteria. Surgeons spoke of laudable pus, and hygienists of effluvia and bad odors. When the war began, the Army Medical Department was practically non-existent and the lessons learned in the Crimean War were so recent that they caused confusion. Between the Sanitary Commission composed of civilians, the Surgeon-General, and the line officers of the Army, there was nearly always lack of agreement. Nevertheless, in the four years of the war there was developed a system of ambulance service and a great network of hospitals more imposing than anything seen up to that time. The author is a trained historian and has analysed the tremendous material at his disposal with judgment and restraint. He gives us a good picture of the defects of organization and policies, the jealousies and politics, the general unpreparedness, and the tremendous variation in medical personnel. The chapter on Dorothea Dix and her female nurses is especially interesting as is also that on diseases and treatment. In this pre-Listerian era, one is surprised to learn that disinfectants were used, but one gets the impression that their use was more as deodorants than for antiseptis. There was no evidence that instruments of the surgeon received any of the treatment. Both iodine and bromide were sprayed in the air but it is hardly likely that the surgeon or the scalpel in his mouth received any of the spray. One is surprised to see the name Dakin in the list of disinfectants.

An interesting experience with maggots is related. A group of Confederate surgeons who were attending gangrene cases in a prison stockade at Chattanooga were denied dressings and bandages. The unprotected wounds were fly blown and became infected with maggots. The maggoty Confederate wounds cleared up quickly while Union wounded protected from flies, died in large numbers. A similar experience had occurred in the Napoleonic Wars, but had been forgotten. The experience with maggots in World War I is fresh in our memory.

The author is to be commended upon this delightful little book that fills such a gap in military medical history.

M.P.R.

Statistics for Medical Students and Investigators in the Clinical and Biological Sciences. By FREDERICK J. MOORE, M.D., Associate Professor of Experimental Medicine, University of Southern California School of Medicine; FRANK B. CRAMER, B.A., Research Fellow; and ROBERT G. KNOWLES, M.S., Research Associate. The Blakiston Company, Philadelphia and New York. 1951. viii-113 pages. With 11 figures and 16 tables. Price \$3.25.

The authors succeeded in writing a rather readable and comprehensible introduction into the difficult field of statistics with due emphasis on sampling distribution, tests of significance, and the problem of non-normal distributions. An appendix contains the needed mathematical formulae and the tables for F, t, and other statistical values. The title of the book is a little misleading since it is written in regard to those statistical problems arising mainly in pharmacological and therapeutical research. Many statistical problems in the wider field of medicine and biology are not mentioned at all.

E.F.

Handbook of Medical Management. By MILTON CHATTON, A.B., M.D., Instructor in Medicine, University of California Medical School, San Francisco; SHELDON MARGEN, A.B., M.D., Clinical Instructor in Medicine, University of California Medical School; HENRY D. BRAINERD, A.B., M.D., Assistant Clinical Professor of Medicine and Pediatrics, University of California Medical School, etc. Second Edition. University Medical Publishers, Palo Alto, California. 1951. 508 pages. Price \$3.00.

The "Handbook of Medical Management" by Doctors Chatton, Margen and Brainerd, second edition, should have a definite place for use by both practitioner and students of medicine. Its scope is unusually wide, practical and the authors have succeeded admirably in condensing a wealth of material into a clear outline for use as a practical, quick reference for the busy doctor who needs something to help him remember. By the same token, it should serve students as a means of review.

Impressive in such a work is the attention to the psycho-somatic aspects of disease and the absence of the shotgun type of prescription. Drugs suggested are based on an attempt to restore disturbed physiology or are otherwise specific.

Though "styles" in therapy vary from place to place the handbook appears to be very well up-to-date, and one gets the feeling that it was written from a sound medical background and sufficient experience with practice to give the authors insight into the practitioner's problems and the best ways of solving many of them.

A.B.G., JR.

Dynamic Psychiatry. Basic Principles. Volume 1. By LOUIS S. LONDON, M.D. Corinthian Publications, Inc., New York. 1952. vi-98 pages. Price \$2.00.

The author attempts to give a brief outline of psycho-analytical theory, largely based on the Freudian system, but supplemented by his own thinking. The most important part of the book is a condensed account of the psychology of the libido. The libido, according to London, may be divided into four component parts: Heterosexuality, Homosexuality, Narcissism, and the Deviations. In "treatment", we must first dissect the libido, cleanse it and then realign it. Dynamic psychiatry is concerned with the conflicts as they arise out of the battle between the instinctual drives and the superego.

The book will be best enjoyed and most profitably read by those who have already a knowledge of psycho-analytical theories.

A.R.F.

The Battle for Mental Health. By JAMES CLARK MOLONEY, M.D., Philosophical Library, New York. 1952. x-105 pages. Price \$3.50.

This small book contains a powerful appeal to improve on early mother-child relationships for the sake of sound mental health in the adult. Written by a prominent psychoanalyst, it addresses itself to obstetricians, pediatricians, nurses and other professions that are concerned with the welfare of the mother and her newly born child.

The author is one of the founders of the Cornelian Corner—a group devoted to the promotion of healthy parent child relationships. Mental health in the adult is characterized by appropriate spontaneity, by flexibility in adjusting to the demands of reality. The book emphasizes the importance of the first two years, even more the first days and weeks in the life of a baby to achieve adult mental health. The infant is utterly dependent on the mother and "senses the maternal climate." To bring about a relaxed and warm relationship the "rooming-in" method is recommended as a first and often decisive step towards the intimate and warm care that children need from their mothers. The need for more relax-

ing methods is illustrated by statistics on the mental and social illness in our culture. A thoughtful analysis of the resistance against the methods of the Cornelian Corner contrasts harmful and helpful attitudes—permissiveness versus competitiveness, relaxation and warmth against rigidity and impersonal regimentation. Special thought is given to ways in which the husband can be helpful to the mother and the new baby. Intelligent young parents may well profit from reading this book.

A.R.F.

Antibiotic Therapy. By HENRY WELCH, Ph.D., Director, Division of Antibiotics, Food and Drug Administration, Federal Security Agency; and CHARLES N. LEWIS, M.D., Medical Officer, Division of Antibiotics, Food and Drug Administration. Foreword by CHESTER S. KEEFER, M.D., Wade Professor of Medicine, Boston University School of Medicine, etc. The Arundel Press, Inc., Washington, D. C. 1951. xiv-562 pages. Price \$10.00.

This unique volume will prove a real asset to the library of any physician who uses antibiotics—and who doesn't? It is appropriate that the book is written by two men who have occupied a central position in the development and standardization of our newer chemotherapeutic agents through the Division of Antibiotics of the Food and Drug Administration.

The first section of the book is devoted to individual descriptions of the various antibiotics, their origin, production, pharmacodynamics, antimicrobial spectrum, and clinical application. The second half discusses the specific antibiotic therapy of infectious diseases—from viral through bacterial to protozoal. Full bibliographic references are included.

In assembling information from hundreds of references concerning the efficacy of antibiotics in various diseases, the authors appear to have attempted a cross-section of opinion, leaving critical appraisal to the reader. It is unfortunate that a chapter was not included to explain the faults and advantages of the sensitivity tests now in use, for their pertinence to clinical problems has become increasingly greater.

In the rapidly-changing field of antibiotics, today's best advice is quickly superseded by tomorrow's discoveries. Drs. Welch and Lewis are to be congratulated on the comprehensive text which they have assembled and it is to be hoped that this is the first of a long series of editions which will keep the medical profession perennially posted on the latest developments in antibiotics.

C.D.G.

EDITORIAL

Florence Nightingale (1820-1910)

ONE hundred years ago Britain was a hard place in which to live. The industrial revolution had crowded working people into cities, where housing conditions were inadequate and sanitation non-existent. The Public Health Act (1848) was the first evidence that the Government was aware of the terrible situation. The lot of the sick was pitiable. The hospitals for the sick poor (no one but the poor went to them) were notorious for their filth and their high mortality rate. What nursing care there was, was supplied by women of the type of "Sairey Gamp" of Dickens' *Martin Chuzzlewit*. Nursing training was non-existent. In the Crimean War (1845-1856) the British Army reached its nadir. Officers spoke of the enlisted men as brutes and treated them as such. With conditions, both civilian and military, as bad as they were, the stage was set for St. Filomena.

Florence Nightingale was born into a rich, neurotic, and highly gifted family. Her mother, Fanny Smith, belonged to a rich mercantile family of London and her father, William Edward Shore, changed his name to Nightingale at the age of 21 when he came into the fortune left him by his uncle. He went up to Cambridge with an income of seven to eight thousand pounds sterling, and developed into a dilettante—rich, aesthetic, indolent, and charming.

Fanny and W. E. N., as he was called, traveled extensively in Italy after their marriage in 1818. Their first daughter was born in Naples. As the time for her second confinement approached, Fanny chose Florence as the city for the event which took place on May 12, 1820. In 1821 they returned to England with two daughters and a fully developed social ambition.

When Miss Nightingale was 16, the family planned extensive alterations in their winter home, Embley Park, and while this architectural face lifting was in progress, they embarked on an eighteen months' trip to the continent. In the midst of the preparations for leaving home, Florence received a call from God. Unlike those of Joan of Arc, Florence's voices gave no specific directions, but subsequent events substantiate their authenticity. When she returned home eighteen months later, she was a beautiful woman, endowed with wealth, a brilliant mind and a charming and compelling personality, well qualified to take the place in society that her parents had planned for her. However, she was not happy. She had not found out what God wanted her to do. She was given to dreaming and to falling into trance-like states and of writing memos to herself. Nursing the children and the sick of the large family connections brought her happiness and she decided that He wanted her to work for the poor in the hospitals. But the English hospitals at the time were no place for a lady. The nurses were noted for immorality and drunkenness. There was no training and none was to be had. The most acceptable qualification was to have had a child. The best thing that Florence Nightingale could do under the circumstances was to make a study of hospitals both at home and abroad. She studied all available hospital reports and became an *expert*.

In the winter of 1849-50 she visited Egypt with friends. Two sisters of St. Vincent de Paul gave her introductions to their order in Alexandria and she inspected their schools and hospital. From the sisters she learned the importance of formal discipline in hospital nursing. She also visited the Institute of Protestant Deaconesses at Kaiserswerth on her way home. The following year she returned to Kaiserswerth and took a regular course of training as a nurse. The family quarrel over what she



Florence Nightingale

(Courtesy of Army Medical Library)

should do now became really acute. Finally, she found a berth to reorganize the Institution for the Care of Sick Gentlewomen in Distressed Circumstances. The Institution was moved to No. 1 Harley Street and Miss Nightingale was made the superintendent.

Things did not go well in the Crimean War for the British. The high command was shot through with inefficiency and hampered by red tape. There was no adequate provision made for taking care of the sick and wounded and Sir William Howard Russell, war correspondent for the *Times*, became a thorn in the flesh of the War Department. Sidney Herbert, the Secretary at War, wrote to Miss Nightingale, asking if she would take charge of the nursing at the barracks-hospital at Scutari. His letter crossed one from Miss Nightingale offering her services. The result was that on October 21, 1854 she set out with a staff of 38 nurses and arrived at Scutari on November 4th, in time to receive the Balaklava wounded. The conditions were unbelievably bad. The barracks-hospital was insanitary; there was no provision for serving food, no change of clothing for the wounded, no sewage disposal. The only thing they had on the positive side were overcrowding and a high mortality. The death rate in February reached 42%. The task of establishing diet kitchens and cleaning up the patients and the place was herculean, but she also had to contend with religious jealousies and bureaucratic inefficiencies. Frequently, she had to invoke the power of the press in order to carry out her task. By June the death rate had dropped to 2%. When peace came, and the last soldier had left Scutari, it was thought that her work was done. A Man of War was ordered to bring her home and London was prepared to give her a triumphal entry, but she returned quietly on a French ship and escaped to her home in Devonshire before her presence was made public. She had a sense of failure. The knowledge that some regiments had lost 78% from disease depressed her and she was determined that this should not happen again.

A fund of £50,000 had been raised in her honor and she devoted this to establishing a training school for nurses at St. Thomas's Hospital. She insisted on the careful selection of applicants for training with especial emphasis placed on character, and she took great interest in the careers of the graduates, but nursing training was no longer her chief interest. It had been replaced, to a large extent, by her interest in the welfare of the British soldier. Her health was shattered and frequently she was bedridden. Cecil Woodham-Smith, in her recent Biography (McGraw-Hill Book Co. Inc. N. Y. 1951), states that after Miss Nightingale's return from the Crimea she never made a public appearance, never attended a public function and never made a public statement. Yet her advice on hospital regulations and hospital construction and on sanitary matters generally was sought from all over the world; from Washington in the Civil War, from Canada when it appeared that the Dominion would have to invade the United States, on account of the Trent affair, from India at the time of the Mutiny. Queen Victoria wished to hear her story first hand, so it was arranged for her to visit Birk Hall, Sir James Clark's Highland place, for the sake of her health. Birk Hall is only a mile or two from Balmoral. She attended several command audiences at Balmoral and the Queen paid her several private visits at Birk Hall.

Florence Nightingale was completely unself-seeking and this added power to the world-wide campaign in behalf of the common soldier, which she managed from her bedside. She took a housekeeping suite in a London hotel and ministers and prime ministers came to her for information and advice. She briefed viceroys before they set off for India. In her *Notes on Matters Affecting the Health, Efficiency and Hospital Administration of the British Army* (1858), she called attention to the bad liv-

ing conditions in the barracks of the British Army in peace time. As an example she compared the mortality rate in the parish of St. Pancras, 2.2 per 1000, with that of the barracks of the Life Guards situated in St. Pancras of 10.4 per 1000, and the civil rate of 3.3 in Kensington with the rate in the Knightsbridge barracks, situated within the borough, of 17.5. The work of the Royal Sanitary Commission on the Health of the Army in India dragged, and she spent £700 of her own money in printing reports and statistics for it. Her *Notes on Hospitals* which appeared in 1859 brought her more responsibilities. The plans for the Birkenhead Hospital, the Edinburgh Infirmary, The Charlton Infirmary, the Coventry Hospital, the Infirmary at Leeds, the Royal Hospital for Incurables at Putney, the Staffordshire Infirmary and the Swansea Infirmary were submitted to her. The Government of India officially consulted her on the plans for the new General Hospital at Madras. The Crown Princess of Prussia and the Queen of Holland submitted hospital plans and the King of Portugal asked her to design a hospital in Lisbon. With the help of Dr. William Farr she drew up model forms for hospital statistical reports.

In 1865 her family bought for her a house on South Street, and in October she moved from the Burlington. The back of her house opened on to the gardens of Dorchester House and her physical surroundings were more pleasant. However, her manner of life continued as before, with no let up in her work except that demanded by actual physical infirmities and here she died August 13, 1910. Her bibliography prepared by Cecil Woodham-Smith gives some idea of her activities.

The Institution of Kaiserswerth on the Rhine for the Practical Training of Deaconesses under the direction of the Rev. Pastor Fliedner, embracing the support and care of a Hospital, Infant and Industrial Schools, and a Female Penitentiary. Printed by the Inmates of the London Ragged Colonial Training School, 1851.

Letters from Egypt, Privately printed, 1854.

Statements Exhibiting the Voluntary Contributions Received by Miss Nightingale for the Use of the British Hospitals in the East with the Mode of their Distribution, in 1854, 1855, 1856. Harrison and Sons, 1858.

Notes on Matters Affecting the Health, Efficiency, and Hospital Administration of the British Army. Founded Chiefly on the Experience of the Late War. Presented by Request to the Secretary of State for War. Privately printed for Miss Nightingale. Harrison and Sons, 1858.

Subsidiary Notes as to the Introduction of Female Nursing into Military Hospitals in Peace and in War. Privately printed for Miss Nightingale. Harrison and Sons, 1858.

A Contribution to the Sanitary History of the British Army during the Late War with Russia. Harrison and Sons, 1859.

Notes on Hospitals. John W. Parker and Sons, 1859. 3rd edition, almost completely rewritten, 1863. Longmans, Green and Co.

Suggestions for Thought to the Searchers after Truth among the Artizans of England. Privately printed for Miss Nightingale. 3 vols. Eyre and Spottiswoode, 1860.

Notes on Nursing: What it is and what it is not. 2nd ed. Harrison and Sons, 1860.

Army Sanitary Administration and its Reform under the late Lord Herbert. M'Corquodale and Co., 1862.

Observations on the Evidence Contained in the Stational Reports Submitted to the Royal Commission on the Sanitary State of the Army in India. (Reprinted from the Report of the Royal Commission), Edward Stanford, 1863.

Introductory Notes on Lying-in Institutions, Together with a Proposal for Organizing an Institution for Training Midwives and Midwifery Nurses. Longmans, Green and Co., 1871.

On Trained Nursing for the Sick Poor. The Metropolitan and National Nursing Association, 1876.

Miss Florence Nightingale's Addresses to Probationer-Nurses in the "Nightingale Fund" School at St. Thomas's Hospital and Nurses who were formerly trained there, 1872-1900. Printed for private circulation.

Florence Nightingale's Indian Letters. A glimpse into the agitation for tenancy reform. Bengal, 1878-82. Edited by Priyaranjan Sen. Calcutta, 1937.

A Lady with a Lamp shall stand
In the great history of the land,
A noble type of good
Heroic womanhood.
Nor even shall be wanting here
The palm, the lily, and the spear,
The symbols that of yore
Saint Filomena bore.

LONGFELLOW

Present Day Training for Nurses

IT IS A far cry from the four months training course (including scrubbing floors) that Florence Nightingale took at Kaiserswerth, and the present day three year training course with a state board and nation-wide examinations that are graded by machines. Sometimes one wonders if we have not progressed too far and too fast. To form a correct judgment on this question one must know what is expected of a nurse today.

Not only have the fields of opportunity for the trained nurse become more numerous, but the modalities have become more complicated. She may be called upon to help with an intraspinal medication, to give fluids or medicants intravenously or supervise an oxygen tent, a Miller-Abbott tube or a Wangensteen apparatus, an incubator or a pulmometer. The psychiatric patient and the extremes of life, the premature baby and the aged, require special skills.

Just as the doctor may enter one of the many specialties, so the nurse may go into office nursing, district nursing, public health or school nursing, industrial nursing, physiotherapy, or teaching, and administration. Regardless of what she eventually does, the one thing that distinguishes her from all the rest of the world is her ability to take care of a sick person. Nothing should interfere with the development of this quality. Whether the training in the nursing specialties should be included in the average training school is questionable. In medicine the specialists have their post-graduate courses and it would seem logical that a similar plan for nurses would be more economical and would result in more good bedside nurses, which is the crying need at the present time.

Miss Nightingale stressed the importance of character as well as the acquisition of knowledge. The former was to be insured by careful selection of the probationer and by progress reports and the latter by examinations. Today when technics in therapy have become more numerous and more complicated the nurse is put to severer tests but nothing justifies spoiling a good nurse in an effort to qualify her for an academic degree. In training nurses, as well as in training doctors, contact with the patient is of prime importance—yes, essential. This should always be borne in mind when arranging the curriculum to meet the increased requirements of the modern nurse.

To meet these increased requirements the curriculum has been overcrowded. More and more use has been made of classroom instruction and less and less of clinical instruction. The result is that the present day graduate nurse does not give as good bedside care as the nurse of the preceding generation, nor for that matter as good special care. We hear of more dreadful and even fatal accidents in hospitals than ever before. We believe that those who are responsible for the curriculum of the nurse's training schools should concentrate on the problem of graduating nurses to whom the carrying out of the doctors orders can be safely entrusted and who can also make the patient comfortable. All else is secondary.

Historical Items

At the request of the Council, the members of The Medical Society of Virginia are petitioned to contribute any documents, photographs, mementos, or other items of historical interest in connection with The Society or the VIRGINIA MEDICAL MONTHLY. These items will eventually be placed on display at 1105 West Franklin Street, Richmond, Virginia.

Among the objects of great historical interest long sought by the Society is the seal struck in 1870 at the time of the reorganization of The Medical Society of Virginia.

L.H.B.

Southern Pediatric Seminar

OUR friend, Julian Price, Editor of the Journal of the South Carolina Medical Association, has sent us the following description of the Southern Pediatric Seminar.

The 1952 session of the Southern Pediatric Seminar will be held in Saluda, N. C. from July 14 through July 26. This is the thirty-first annual session of this institution which has become one of the outstanding postgraduate courses in pediatrics in the country. Following the plan which was put into effect last year, there will be an additional week (July 28 through August 2) devoted to the study of Obstetrical and Gynecological problems.

The Seminar was established and is maintained for the benefit of the general practitioner. Outstanding teachers and clinicians from the various southern states come, at their own expense, to give lectures, clinics, clinical-pathological conferences, and demonstrations. The meetings are of an informal nature and there is ample time to present special subjects and questions for discussion. General practitioners from Virginia to Florida to Arkansas who have attended the Seminar can attest to its value.

Held at Saluda, which is in the mountains of North Carolina, many of the physicians bring their wives and families with them and make the occasion a joint period of study and vacation. Such a plan is encouraged by the leaders of the Seminar and every effort will be made to secure accommodations for those who might desire to do this.

The course given at the Seminar is fully accredited for postgraduate requirements in the Academy of General Practice.

Those who are desirous of further information should write to Dr. D. L. Smith, Registrar, 187 Oakland Avenue, Spartanburg, S. C.

SOCIETIES

The Fairfax County Medical Society

Met on March 11th at the home of Dr. Gerard J. Inguagiato. Two new members were admitted, bringing the total membership to twenty-eight.

Dr. Jack Levine gave an informative and timely talk on air problems in general practice.

A committee has been appointed to study the availability of physicians in the county for night calls and to make appropriate recommendations for making such service complete for every section in the area.

It was voted to turn over to the Arlington Hospital as a gift a Series F Government bond, par value \$100.00, owned by the Medical Society, to be used toward the building fund for the hospital.

Dr. Kennedy, the new Fairfax County Health Officer, was present to meet the group.

Arrangements are to be made by the Health Department for necessary eye examinations for all school children who are financially unable to consult a private specialist.

The next meeting was scheduled for the second Tuesday in April at the home of Dr. Nelson Podolnick, in Falls Church.

Refreshments were served by Mrs. Inguagiato and Mrs. Paul Kemp.

ALICE H. KIESSLING, M.D.

CLAUDE COOPER, M.D.

Publicity Committee

The Buchanan-Dickenson and Tazewell County Medical Societies

Held a clinical session April 17, at Grundy, under the auspices of The Department of Clinical and Medical Education of the Medical Society of Virginia.

The program was presented as follows by members of the faculty of the Medical College of Virginia:

The Use of the Antibiotics—Count D. Gibson, M.D., Assistant Professor of Medicine

The Skin Diseases of Children other than the Exanthemata—R. Campbell Manson, M.D., Assistant Professor of Clinical Dermatology and Syphilology

The Differential Diagnosis of Chest Pain—Harry Walker, M.D., Professor of Clinical Medicine

A Discussion Period followed.

The Wise County Medical Society

Met in Norton, February 13th. After a social hour and dinner, the staff of Southwestern Virginia Hospital had the scientific program, all on mental problems. The head of the institution, Dr. Joseph R. Blalock spoke on Recent Developments, Dr. Lewis E. Jarrett, a Case of Parkinsonism, Dr. James E. Dean, Multiple Approach to a Homicide, and Dr. B. E. Barringer discussed the above.

Dr. James T. Phillips of Norton was elected a new member.

Following officers were elected for a year: President, Dr. G. C. Sneed, Derby; Vice-Presidents, Dr. D. C. Keister, Appalachia, and Dr. L. E. Ball, Big Stone Gap; Secretary-Treasurer, Dr. T. J. Tudor (re-elected), Norton.

Dr. J. J. Porter, Appalachia, was elected to Board of Censors, replacing Dr. E. J. Benko, whose three years service was ended.

The next meeting will be on May 14th at Norton. A urologist and cinema are scheduled.

T. J. TUDOR, *Secretary*

Roanoke Academy of Medicine.

At the regular meeting of the Academy on April 7, in the ballroom of Hotel Roanoke, the following program was presented:

The Clinical Use of Histamine—Dr. Bayard T. Horton, Mayo Clinic, Rochester, Minnesota

The Story of Cortisone—Dr. Edward C. Kendall, Princeton University, Princeton, New Jersey.

Dr. Ira H. Hurt is president of the Academy and Dr. Philip C. Trout secretary.

Richmond Academy of Medicine.

A case report on Tuberculous Meningitis by Drs. Gordon Hall and Hubert Dugan was given at the April 8 meeting, and a paper on The Diagnosis and Tetralogy of Fallot by Drs. Lewis Bosher, Jr., Carolyn McCue, Reno R. Porter and William E. Pembleton.

Dr. Guy W. Horsley, is president of the Academy.

Lynchburg Academy of Medicine.

At the March meeting of this Society, the guest speaker was Dr. Edward P. Cawley, professor of Dermatology at the University of Virginia. His subject was "Recognition and Treatment of Pre-

Cancerous and Cancerous Dermatoses". No important business was transacted at this meeting.

EDWARD A. HARPER, *Secretary*.

The Alexandria Medical Society

Had their third annual Clinic Day on April 27th. At this time an excellent program was given in co-operation with the faculty of the University of Maryland.

Virginia Neuropsychiatric Society.

At the annual meeting of this Society in Charlottesville on April the 11th, Dr. James B. Funkhouser of the Veterans Administration Hospital, Richmond, was elected president, succeeding Dr. R. C. Longan, Jr., of Richmond. Other officers elected at this time

were Dr. Frank Strickler of Roanoke as vice-president, and Dr. Granville Jones, superintendent of Eastern State Hospital, Williamsburg as secretary. In addition to the officers, Dr. Patrick H. Drewry of Richmond and Dr. Richard W. Garnett, Jr., of Charlottesville were named for the executive committee.

South Piedmont Medical Society.

The officers of this Society elected at a recent meeting are: President, Dr. Charles W. Haden, Evington; vice-presidents, Dr. John W. Hooker, Danville, Dr. C. B. White, Halifax, and Dr. Joseph W. Houck, Lynchburg; secretary-treasurer, Dr. William J. Hagood, Clover.

NEWS

Scientific Exhibits.

Dr. Eugene L. Lowenberg, Chairman of the Committee on Scientific Exhibits, announces that the Committee will now receive applications for scientific exhibits for the meeting of The Medical Society of Virginia to be held in Richmond, September 28th through October 1st. The deadline for applications will be June 15th. The executive committee will then choose those to be shown and notify the exhibitors by July 1st. This will be necessary because of limited space at disposal for scientific exhibits. Applications should be requested from Dr. Hunter B. Frischkorn, Jr., 1000 West Franklin Street, Richmond 20, Virginia.

Hospital A Reality.

The Richmond Eye, Ear, Nose and Throat Hospital at 408 North 12th Street, Richmond, will open its doors for patients on May the 12th. More than seventy gifts (some of them quite large) have made it possible for the hospital to start in a strong financial condition. About thirty-five physicians will practice there.

A basement and sub-basement house certain laboratories, the kitchen, storage rooms, etc.; on the first floor are administrative offices, operating and examining offices; the second and third floors will care for forty-six patients; and the medical record rooms and interns' quarters are at top of building

in a penthouse arrangement. All equipment will be of the most modern type.

Dr. Rudolph Thomason is president of the hospital and the vice-presidents are Drs. E. Tribble Gatewood and S. M. Cottrell. In addition to these, other members of the board of directors include: H. H. Augustine, Dr. W. Wallace Gill, George E. Haw, Dr. L. Benjamin Sheppard and Dr. B. Randolph Wellford of Richmond, and Dr. John W. Burke of Washington, D.C.

Changes in State Health Department.

Dr. A. L. Carson, Jr., until recently director of the State Health Department's division of specialized medical services, has been appointed director of the division of local health services by State Health Commissioner Shanholtz.

Dr. L. L. Shamburger, has been named head of the division of specialized medical services, succeeding Dr. Carson. Dr. Carson has been connected with the State Health Department since 1931 and Dr. Shamburger since 1936.

Johnston-Willis Hospital to Have New Nurses' Home.

A new Nurses' Home is to be built by this hospital in order to expand its nurse training program. This will be on the block below the hospital and will be a three-story building. It is expected that at

least part of the building will be ready for occupancy in September.

General Practice Postgraduate Training.

The General Practice Group of the University of Tennessee has established a postgraduate clinical training program for general practitioners. This has been approved by the American Academy of General Practice for its members.

The program is designed for the general practitioner on an individual basis, according to his individual needs. One week to one month of training is offered. Each doctor will spend morning hours in his choice of any one of the University specialty fields. This will be active work at the resident level. The afternoons will be spent in the General Practice Clinic where the medical students get active general practice experience. Evenings are utilized in the emergency room of the John Gaston Hospital which is supervised by members of the General Practice Staff.

General practitioners who would like to participate or who desire further information, may write to the General Practice Office, University of Tennessee, Memphis, Tennessee. There is no fee charged for this training.

University of Virginia, Department of Medicine, News.

A new auditorium, first of three medical school additions to be completed, was officially dedicated by Dean Vernon W. Lippard at the opening of the Friday Evening Medical Lecture, March 14.

The auditorium, with a seating capacity for 240, occupies the two lower levels of a five story addition to the Department of Medicine. It is equipped with modern facilities for lighting, ventilation and audio-visual education.

On each of the three upper floors of the addition is a classroom with seating capacity for 100 students. Other buildings nearing completion are a six-story laboratory building and a cancer unit.

Dr. Harvey B. Haag, Professor of Pharmacology of the Medical College of Virginia, was guest speaker on March 14, and one of a series of distinguished medical authorities who have given lectures at the Department of Medicine on twenty Friday evenings during the year. Dr. Haag spoke on the pharmacological effects of nicotine and tobacco.

Dr. Manfred Guttmacher, Chief Medical Officer of the Supreme Bench of Baltimore, Md., spoke March 21.

Dr. Reuben Kahn, member of the faculty of the University of Michigan Medical School, lectured March 28, on the universal seriological reaction in health and disease.

A postgraduate conference on "Infectious Diseases", last of a series for general physicians of the State during the academic year, was held April 18, at the University of Virginia.

Guest speakers were Dr. Harrison F. Flippin, Chief of the Section of Infectious Diseases and Associate Professor of Medicine at the University of Pennsylvania Schools of Medicine, and Dr. George T. Harrell, Jr., Professor of Medicine at Bowman-Gray School of Medicine. Dr. Flippin spoke on "Management of the Pneumonias, with Special Reference to Complications" at the afternoon session of the conference. Dr. Harrell lectured on "Rocky Mountain Spotted Fever" in connection with the Friday evening Medical Lecture Series.

Dr. E. G. Gill,

Roanoke, recently returned from New York where by invitation he addressed the Annual Post-Graduate School in Ophthalmology which was conducted by the New York Polyclinic Medical School and Hospital. Dr. Gill's subjects were "Recent Advances in Cataract Surgery" and "The Surgical Treatment of Glaucoma".

Duke to Give Postgraduate Course.

Duke University, Durham, N. C., announces a Postgraduate Course to be given June 16, 17, 18 and 19. Registration fee will be \$25.00. The meetings will be held in the Duke Hospital Amphitheatre. The evenings of the first two days will be spent in informal round-table discussions, patients to be presented if possible. On the evening of the 18th, the group and faculty will be entertained at an informal barbecue. Ward rounds will be given on the various services each afternoon.

Detailed information as to the course, rooms and meals may be obtained from Dr. W. M. Nicholson, Director of Postgraduate Education, Duke University School of Medicine, Durham, North Carolina.

Anesthesiology Program Approved.

The Residency Program in Anesthesiology at the University of Virginia Hospital was approved the

middle of March by action of the Council on Medical Education and Hospitals in concurrence with the American Board of Anesthesiology.

Winthrop-Stearns Opens North Carolina Sales Office.

Winthrop-Stearns Inc., has opened a new professional service office in Raleigh, North Carolina to function as sales headquarters in the surrounding area, with E. T. Meyers as manager.

Territory covered by the new branch includes the entire state of North Carolina and parts of Virginia, West Virginia and Tennessee.

The Society for the Prevention of Asphyxial Death

Is in its sixth year of sponsorship of courses in resuscitation. The June class is to be on the 6th and 7th of that month. While the course is given regularly in New York City the first Friday and Saturday of each month, out of town classes have met in other cities. Requests for out of town courses will be considered where application is made by a group of at least twelve students. For information, write Secretary, S.P.A.D., 2 East 63rd Street, New York City 21.

The Elizabeth Buxton Hospital,

Which has operated in Newport News since 1906, has been sold to the Bernardine Sisters of the Third Order of St. Francis. The change will become effective May 15 at which time the name will be the Mary Immaculate Hospital. It will continue to be operated as a general hospital on a non-sectarian basis.

The hospital was founded by Dr. Joseph T. Buxton, father of the present owner, Dr. Russell Buxton who plans to continue his work at the hospital as long as needed and who will also maintain his private work.

"Cancer Quiz"

DO YOU KNOW THAT CANCER IS:

- a. marked by "Seven Danger Signals" which should be known by everyone; the sore that does not heal, a lump or thickening in the breast or elsewhere, any unusual bleeding or discharge, any change in a wart or mole, persistent indigestion or difficulty in swallowing, persistent hoarseness or cough, any change in normal bowel habits.

- b. considered curable in its early stages when treated properly—x-ray, surgery or radium.
- c. always fatal if untreated.
- d. seldom painful in its early stages.
- e. controllable by regular physical examinations by your doctor—twice yearly for women over 35, and yearly for men over 50.
- f. a major threat to American business because it threatens one in every eight business executives, employees and customers at the very peak of their usefulness.

Your most powerful ally against cancer in your knowledge of the disease.

AMA Pays \$20,000 in '52 for Chronic Illness.

The AMA has pledged continued financial support to the Commission on Chronic Illness in the amount of \$80,000 to be paid over a four-year period. The Commission, an independent national agency, is conducting an intensive study of chronic illness—one of the most important health problems in America today. This year's installment of \$20,000 was recently turned over to the Commission. A \$300,000 budget set by the Commission for the coming four-year period has been met by twelve contributing organizations.

Portrait of Dr. Johns.

On April 19, a portrait of Dr. Frank S. Johns of Richmond was presented to Hampden-Sydney College with appropriate exercises. This was given by Dr. Donald Daniel, a long-time friend and associate.

Wanted—

General practice office equipment, including instruments. Address Edward J. Stoll, M.D., Sewickley Valley Hospital, Sewickley, Pennsylvania. (*Adv.*)

Medical Resident Wanted.

Beginning July 1, fully approved 165-bed general hospital has opening for Medical Resident. Stipend \$150 a month and maintenance. Address "Medical Director, C. & O. Hospital, Huntington, West Virginia." (*Adv.*)

Full Time Medical Directors

To handle medical civil defense problems arising in each regional geographical area are needed. The states included in Region 2 are Pennsylvania, Maryland, Virginia, West Virginia and North Carolina.

The job pays \$10,800 per year. Any one in the above named states interested should write H. R. Battley, Southern States Building, 7th and Main Streets, Richmond 19, Virginia, for requirement and details.

Wanted—

Associate physician (general practice) drawing account plus commission; rapid advancement; twenty miles from Richmond. Write P. O. Box 257, Providence Forge, Va. Phone 541. (*Adv.*)

OBITUARIES

Dr. R. A. Quick.

The Arlington County Medical Society and the staff of the Arlington Hospital, in joint session February 21, passed the following resolution:

Ralph Andre Quick was born in Ashburn, Virginia. His medical education was obtained at George Washington Medical School where he graduated with honors in 1908 and began to practice in Arlington County. He offered his services to the Army in 1917 but was declined on account of physical disability resulting from typhoid fever. He thereupon volunteered and entered the Red Cross service and served as pediatrician in France throughout the war.

Following his return from France in 1918, until his death, he practiced in Arlington County earning the love and confidence of a large clientele and the esteem of the Medical Profession.

The Arlington Medical Society and the Governing Staff of Arlington Hospital met in joint session February 21, 1952 and passed the following resolution:

WHEREAS the passing of Dr. Ralph Andre Quick, has removed from our fellowship one of our best loved members,

BE IT RESOLVED that we feel that the community and the Medical Fraternity has suffered an irreparable loss in the death of this esteemed and distinguished practitioner.

BE IT FURTHER RESOLVED that a copy of this resolution be sent to Mrs. Quick and the VIRGINIA MEDICAL MONTHLY.

S. T. NOLAND, M.D.

W. C. WELBURN, M.D.

Dr. Quick died January 20. He is also survived by two sons.

Dr. Thomas H. Worrell,

Hillsville, for many years a member of The Medical Society of Virginia, died unexpectedly on Feb-

ruary 23 at the age of 67, apparently as the result of a heart attack. He was a graduate of the Baltimore Medical College in 1912 following which he interned in Maryland General Hospital. After a short time in Carroll County, he located in Mount Airy, N.C. Upon retirement several years ago he returned to Carroll County. His wife survives him.

Dr. William Strother Snead,

For thirty-five years a practicing physician of Newport News, died April 3rd at a local hospital there. A native of Louisa County, he was sixty-six years of age and a graduate in medicine from the Medical College of Virginia in 1911. He had been a member of The Medical Society of Virginia since 1915. He is survived by three children.

Dr. John Randolph Perdue,

A native of Rocky Mount, Va., living at Miami Beach, Fla., died March 27 at the age of 43. He graduated in medicine from the University of Virginia in 1932 and had specialized in obstetrics and gynecology. He is survived by his wife, the former Dr. Jean Jones of Petersburg, Va., and two daughters.

Dr. Harrie Maxwell Quackenbos,

Clinical director at Lynchburg State Colony, died March 31 after an illness of several months. Before coming to the Colony in 1949, he was on the staff of the Trenton State Hospital in New Jersey. He was sixty-three years of age and a graduate of Jefferson Medical College, Philadelphia, in 1914. His wife and three sons survive him.

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GUEST EDITORIAL

Financing Medical Education

THE financial status of our medical schools is of major concern to educators and the medical profession and should be of concern to the general public. Rising costs, which have not been balanced by proportional increases in endowment or appropriations, have forced curtailment of essential activities. It is becoming difficult to attract and hold salaried faculty members. Demands for expansion of enrollment are unrealistic unless accompanied by relative increases in staffs and facilities.

The solution to these problems is not to be found in further increases in tuition fees, which are already so high that there is danger of excluding from the medical profession talented young men and women whose financial resources are limited. It has even been proposed that the medical student bear the entire cost of his education, either by cash payment or notes payable after he enters practice. Why the physician, and not the banker, lawyer or engineer, should be expected to pay full costs is difficult to understand.

During the past few years, support for medical research has improved as a result of increased donations to national health organizations, federal appropriations and income from endowments of foundations. The availability of these funds, however, has not made the financial problem of the medical schools more simple because they have contributed to, rather than diminished, the basic costs of operation. The need is for "hard money" which can be depended upon for faculty salaries and basic operating expenses.

One of the most encouraging prospects is the almost simultaneous development of two organizations, the American Medical Education Foundation and the National Fund for Medical Education. The former, sponsored by the American Medical Association, and the latter, sponsored by prominent business men and educators, are combining their efforts to obtain assistance on a voluntary basis. During the first year of operation, \$1,594,373 was distributed among the 79 schools. Such funds can be used without restriction to meet immediate requirements. They offer an opportunity to physicians to repay the investment of endowed or public funds made in their education without compulsion and in proportion to their means.

Contributions from physicians are made directly to the American Medical Education Foundation and may be designated for distribution to a specific school. Undesignated funds are allocated on an equitable basis and earmarked contributions are added to the basic grants. Thus physicians may receive credit from the schools of their choice for gifts to the Foundation. The administration of the Foundation is underwritten so that every cent contributed goes to a medical school.

Contributions from industrial corporations are routed through the National Fund

for Medical Education. Quoting its by-laws, "The purpose of the Fund is to raise, dispense and administer funds, and to take other appropriate action, to promote and foster the following objectives:

- (1) The interpretation of the needs of medical education to the American public.
- (2) The encouragement of the growth, development and advancement of constantly improving standards and methods in the education and training of all medical manpower in the nation.
- (3) The preservation of academic freedom in the institutions of medical education and the aiding of these institutions in offering equality of educational opportunity to all those who are qualified to seek to enter the medical profession.
- (4) The strengthening of the nation's ability to survive by training and educating a sufficient corps of well-equipped men and women to care adequately for the people's health and medical needs."

When a group outside of medicine sets out to achieve such objectives, it deserves the support and encouragement of those who are more intimately acquainted with health problems. The practicing physician, in his daily contacts, can be of tremendous assistance in advancing the objectives of the National Fund.

As the prospect of solving the problem entirely by voluntary contributions seemed remote, the medical schools, through the Association of American Medical Colleges, went on record in support of federal aid to medical education. In 1951, 68 of the 79 schools voted in favor of legislation which would provide subsidies for operating expenses in proportion to enrollment, with no strings attached. They voiced serious opposition to any form of federal subsidization which would entail governmental interference in selection of students, size of enrollment, appointment of faculty, arrangement of curriculum or other internal policies which must remain under jurisdiction of their local governing bodies.

The American Medical Association has gone on record in opposition to federal aid for instructional expenses, in spite of generally favorable experience with federally administered research grants. It is their contention that federal subsidies should be discouraged until all other sources have been exhausted and until it can be demonstrated that federal aid can be provided without federal control.

The ultimate solution is not yet in sight. Although financing by endowment, voluntary contributions and taxation at the state or municipal rather than the federal level would probably be favored by the majority of the medical schools, they are reluctant to sacrifice the high standards of medical education while awaiting the day when their needs may be recognized locally. Whether or not federal aid is made available in an acceptable form, it is certain that a hard core of funds from other sources is essential.

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REPORT OF THE 1951 RABIES OUTBREAK
RICHMOND, VIRGINIA

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Rabies in dogs has occurred in varying areas in Virginia since Colonial times. Until 1951 Richmond fortunately had relatively few cases of rabies, in spite of its large stray dog population. Even when an outbreak occurred in an adjacent county in 1950, no cases were known to have developed in the City.

This freedom from rabies came to an end with an occurrence of a rabies epizootic in the City which began on July 13, 1951, and lasted until September 9 of the same year. During this time, 29 animals (19 dogs and 10 cats) were shown by laboratory examination to have rabies; 5 others were designated as suspicious. The outbreak started on the far east side of town, which was immediately placed under quarantine. It spread by short jumps and intervals north and west until the entire portion of the City north of the James River had to be quarantined. When no cases appeared during the three weeks after September 9, the quarantine was raised. In the ensuing six months, no further cases of rabies have occurred.

TABLE I
CASES OF RABIES IN ANIMALS, STATE OF VIRGINIA,
CITY OF RICHMOND, and ADJACENT COUNTIES
DURING THE TEN-YEAR PERIOD 1942-1951.

	Virginia	Richmond	Chesterfield County	Henrico County
1942	89	0	0	0
1943	277	0	0	0
1944	334	0	*	*
1945	116	0	0	0
1946	108	0	2	0
1947	162	2	0	1
1948	149	0	0	0
1949	82	0	0	1
1950	94	0	11	2
1951	223	29	0	0
TOTALS	1,634	31	13	4

*—Not available

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HISTORY

Rabies has been known since ancient times and, in the main, has been associated with the genus canis. Rabies in dogs and domestic animals was described in 500 B. C. by Democritus and by Aristotle in 322 B. C. The relationship of hydrophobia in man to rabies in animals was recognized by Celus in 100 A. D., who advocated cauterization of wounds produced by rabid dogs.

Rabies in Western Europe antedates 1271, being prevalent among wolves in France at that time. The first recorded epizootic of this disease among urban dogs occurred in Italy in 1708 and later was reported in England in 1734. There is no evidence to indicate the existence of rabies in the New World prior to colonization. The first record is from Virginia referring to the disease in 1753.

The modern concept of rabies was originated by Pasteur and his associates, who theorized that the infective agent was sub-microscopic and called it a virus. This fact was established in 1903 by Rem-binger. Pasteur developed a means of modifying the pathogenicity of the rabies virus and from this work developed a method of vaccination against the disease. On July 6, 1885, a boy, Joseph Meister of Alsace, became the first human treated by vaccination.

CONTROL OF OUTBREAK

The control of the outbreak of rabies in Richmond in 60 days may have been, in part, fortuitous; however, the prompt and thorough co-operation of the public in the involved area and the untiring efforts by the personnel of the City Dog Pound, the Game Warden, the Police Department, and the Society for the Prevention of Cruelty to Animals undoubtedly were the major factors in the effectiveness of the control measures. During the quarantine period, 622 dogs and 281 cats were destroyed as strays.

OBSERVATION OF ANIMALS

All animals suspected of having rabies, or impounded because of biting humans, were kept under quarantine for 14 days and regularly observed by the City Veterinarian for symptoms of the disease.

Any dog dying with symptoms suggestive of rabies, for no apparent reason, or in less than 10 days after having bitten a human, was further examined for laboratory evidence of rabies by microscopic examination of its brain tissue and by mouse inoculation tests.

Many of the dogs developed clinical symptoms which could be classified as either typical furious rabies or dumb rabies. The dog with furious rabies, though previously of a quiet disposition, develops a tendency for wildness, leaving home, and running at large. In dumb rabies the animal, usually active and friendly, develops lassitude, tends to hide, refuses food, and his normal friendliness is replaced by a tendency to snap at people. Both conditions in the late stages produce paralysis of the hind-quarters and some partial paralysis of the jaw muscle, frequently resulting in slavering. Progressive generalized paralysis and coma usually precede the animal's death.

In addition to the two types of rabies described above, during the outbreak there were some animals which died suddenly with no symptoms noted. This occurrence has been described previously by Rivers.¹

LABORATORY TECHNIQUE

The spread-smear technique was used for making the preparation for microscopic examination in the Richmond Health Department Laboratory, and Seller's Stain was the stain of choice. This spread-smear technique is that described in Communicable Disease Center Bulletin,² and in the "Manual of Routine Diagnostic Methods of the Bureau of Laboratories of the Alabama State Department of Health".³ The advantage of this method is that larger amounts of material may be examined per slide than with the other popular method known as the impression technique. Also, much more time per slide can be spent in the close scrutiny of each preparation. The disadvantage is that there is often damage to the neurones and glial structures and extracellular inclusion bodies are more common.

However since 1903, when Negri originally described the typical inclusion bodies of rabies that bear his name, there has been a trend to report as positive any slide with typical inclusion bodies showing dark inner granules. Gradwohl states: "In most preparations, many of the Negri bodies are not in the cytoplasm."⁴ In the Manual of the Alabama

State Laboratories mentioned above is found the following statement: "A positive report may be made on characteristic Negri bodies outside the cells, but search should be made for intracellular bodies."³

Other authorities make similar statements. Topley and Wilson say: "Negri bodies are found most frequently in the cytoplasm and dendritic prolongations of the nerve cells, particularly in those of Ammon's Horn."⁵ Cameron goes further to state: "The finding of Negri bodies constitutes a positive diagnosis; however, suspicious bodies found in fresh brains should be considered as probable evidence of rabies."⁶

The Negri bodies observed by the method used were small, round or oval bodies, varying in size from 1.0 to 30.0 microns, and were of a homogenous magenta color with dark blue to black basophilic inner granules. While they were seen most frequently as extracellular, due to the method of preparation of the specimens, it was possible to find intracellular bodies if the slides were exhaustively searched. In at least 50 per cent of the slides, Negri bodies were found intracellular as well as extracellular. In all but 5 animals reported as positive for rabies, intracellular or extracellular Negri bodies were found. The 5 reported as suspicious were from animals in which atypical inclusion bodies were noted on examination.

There occurred during this rabies outbreak some cases of distemper. While many of these were confusing as to diagnosis from the clinical standpoint, the laboratory findings were clear cut. Examination of these animal heads revealed typical distemper inclusion bodies which, although somewhat resembling the Negri bodies of rabies, were easily differentiated. If present, they were invariably more numerous and never presented any suggestion of dark-colored granules. In no slides examined during this period did there occur both types of inclusion bodies.

All slides designated as positive were checked by at least two other individuals one of whom had to be the laboratory director or his assistant. Both of these individuals have had considerable training in the interpretation of such slides in other laboratories, one in the Alabama State Department of Health, and the other in the Virginia State Department of Health Laboratory.

In addition to the microscopic examination of the

brain tissues of infected or suspected animals, a further diagnostic procedure is available. This is the mouse inoculation test. Material from the brain of the suspected animal is inoculated intracerebral into 10 white mice. If rabies existed in the animal under suspicion, the mice generally succumb to the disease, and Negri bodies may be found in their brain material.

MOUSE INOCULATION

Ordinarily when the microscopic examination reveals Negri bodies, no further studies are done on the animal, as this is considered sufficient evidence of rabies. However, due to interest in evaluating the findings by mouse inoculation of material from all suspected animals, portions of all negative brains, and 22 of those found to be positive, were sent to the Bureau of Animal Industry, U. S. Department of Agriculture, Washington, D. C. Insofar as rabies was concerned, all of these specimens gave negative results by mouse inoculation.

Feeling that this was due in part to the delay encountered in transportation and shipping, the Richmond Health Department laboratory began to do its own mouse inoculations. This began, however, towards the end of the outbreak, with only two positive animals included in this group. None of the inoculated mice developed signs of rabies.

It is difficult to explain why the mice inoculated with material from the two animals which were observed positive by microscopic examination did not acquire the disease. In spite of the negative results on mouse inoculations, microscopic examination alone would be acceptable proof of the existence of rabies. Nevertheless, this does show the need for closer cooperation between the field and the laboratory and the use of some type of refrigeration, even when no shipment problem is involved.

A SECOND ENTITY

There is a further possible complicating factor which, at this time, is in the investigation stage. During an outbreak of rabies in St. Louis, where they have a complete virus laboratory at their disposal, it was discovered that concurrent with the typical rabies another entity apparently was occurring. This second entity caused development of Negri bodies which were observed by microscopic examination of the dog brain, but it could not be demonstrated to be pathogenic for mice.

Mice inoculated with such material, instead of dying of typical rabies on the tenth day after inoculation, either survived with no abnormal findings being noted or developed an encephalitis-like condition on or after the 21st day. This entity, except for showing no cross immunity with rabies, could not be identified. While other laboratories have noted such an occurrence, there is only one brief and indirect reference to such an occurrence in the literature, and this is in a transcript of a clinical pathologic review held at the Washington Medical School in St. Louis.

In spite of this theoretical entity, nearly all Public Health laboratory workers hold that it would be a dangerous practice to fail to report as positive for rabies any microscopic examination which showed typical Negri bodies. When reporting test results in a disease wherein the mortality rate is known to be 100 per cent, one cannot afford to take chances or even to delay treatment in the face of such findings by waiting for further investigation by animal inoculation which may or may not be conclusive. Therefore, it was not deemed advisable in this outbreak to disregard direct microscopic findings regardless of results of animal inoculations.

CONTROL PROCEDURES

"The Control of Communicable Diseases in Man", the report of the Committee on Communicable Disease Control of the American Public Health Association which report was officially approved by the United States Public Health Service, and was later, 1949, formally adopted by the Board of Health of the City of Richmond, and by the Virginia State Board of Health in 1950, discusses the disease entity rabies in detail. The report contains the following explicit statements and facts concerning rabies control procedures:

"B. The infected individual, contacts and environment:

1. Recognition of the disease and reporting: Clinical symptoms, supported by the presence of Negri bodies in the brain of the animal which has caused the injury, and by animal inoculations with material from brain of such animal.
2. Isolation: None if the patient is under adequate medical supervision, and immediate attendants are warned of possibility of inoculation by human virus through contamination with the patient's saliva.
3. Concurrent disinfection: Of saliva of patient and articles soiled therewith.
4. Terminal disinfection: None.

5. Quarantine: None.
 6. Immunization: Prompt institution of prophylactic antirabic vaccination of persons bitten by or intimately exposed to the saliva of a rabid animal, or any animal suspected of being rabid, especially a dog. Treatment, if not completed, may be discontinued if the dog is well at the end of the period of observation, or rabies is excluded by suitable laboratory examination. Chance of infection is to be weighed against the very small chance of developing paralysis due to the treatment.
 7. Investigation of source of infection: Search for the rabid animal and for all persons and other animals bitten by it.
- C. Epidemic measures:
1. Establishment of area control under the authority of state laws and regulations enforced by state and local health authority, or state department of agriculture, or live stock sanitary board.
 2. Within defined area of epidemic prevalence of rabies in wild or domestic animals or both, vigorous and sustained efforts should be made to collect and destroy all stray, ownerless, and un-vaccinated dogs found off the owners' premises.
 3. Use of appropriate means of educational publicity to advise the public of the local rabies situation, to inform them of the nature of the disease, its severity, the means of transmission, the precautions they should take regarding their own dogs and those of others with which they may come in contact, the necessity of reporting to a physician for treatment any person bitten by a dog. The presence of a dog showing unusual, strange, or threatening behavior should be reported to the police.
 4. Special encouragement of and facilities for the protection of owned dogs by vaccination.
 5. All cases of rabies in man or animals and all dog bites of persons should be reported promptly to the local health authority."⁷

STATE RECOMMENDS THREE-POINT PROGRAM

The Virginia State Health Commissioner has pointed out that, at present, control of rabies is chiefly a matter of local legislation, planned and enforced by local officials. He recommends the following three-point control program:

1. Impounding and destruction of all stray and ownerless dogs.
2. Vaccination of all dogs.
3. Licensing of all dogs.

TREATMENT OF PERSONS EXPOSED TO RABIES

As a result of the Richmond outbreak, there were 88 persons who were given anti-rabies treatment. Among this number were some individuals who had allowed open wounds on their hands to be soiled by

saliva from the rabid animal. Under these circumstances, exposure could not be ruled out; consequently, they were included with those having received actual bites. Recent cases of human rabies in which exposure was definitely not by bite have been reported in the nation.

COMPLICATIONS

While there were no fatal complications from the immunization procedures, there were 14 who showed reactions of one type or another which were severe enough to warrant cessation of treatment. They ranged from mild generalized symptoms, with low grade fever, to rather severe reactions requiring hospitalization of two individuals.

The most severe complication occurred after the eighth treatment in a young adult who developed local reactions and allergic symptoms resembling a severe "cold" accompanied by frontal headache and low grade fever. This individual apparently had complete subsidence of symptoms on the third day after treatment was stopped. He then started on a cross-country trip but before reaching his destination, he became comatose and had to be taken to the hospital. He showed extreme symptoms of encephalitis with generalized central nervous system involvement. After a rather stormy course of 10 days, he made a complete recovery with no residual effects.

There were no after effects in any of the 14 in which reactions occurred. It is interesting to note that these reactions occurred after the seventh injection and never later than the eleventh. Both the medium and the average showed that the ninth injection was the one which produced reactions necessitating stoppage of treatment.

SUMMARY

An outbreak of rabies in Richmond occurred during July and August, 1951, with 29 animals being diagnosed as positive by laboratory examination, and an additional 5 being suspicious. Quarantine of the area affected was set up, and the outbreak was brought under control with a minimum period of time involved.

Diagnosis of rabies was based on approved laboratory methods. Further follow-up was done by animal inoculation. Cases of distemper did not confuse the diagnosis of rabies. St. Louis viral studies have revealed the possibility of a second entity similar to rabies, but as this is theoretical, no Public

Health Worker would be justified in failing to report as positive any microscopic examination which showed typical Negri bodies.

During the outbreak, 88 persons were given anti-rabies treatment. Fourteen of these showed some type of reaction.

CONCLUSIONS

During an outbreak of rabies, all laboratory examinations revealing the presence of Negri bodies should continue to be reported as positive. Adequate facilities for quarantine, impounding of stray dogs, vaccination of dogs, and immunization of exposed persons, should be maintained.

Procedures outlined in the Control of Communicable Diseases in Man should be followed as they apply to rabies control.

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Alcohol Retained in Body Determines Intoxication.

The amount of alcohol that a person's body fails to oxidize or eliminate determines the degree of his intoxication, rather than the amount of alcohol that he consumes, a medical consultant stated in the Journal of the American Medical Association. "In other words," the consultant pointed out, "it is the unburned alcohol in the body that causes intoxication. "The average 150 pound man oxidizes and eliminates about seven to ten cubic centimeters of absolute alcohol per hour. If he would space his drinks, he could drink a pint of 100 proof liquor in 24 hours without showing physical or chemical signs of intoxication." It was stressed, however, that the presence of food in the stomach delays absorption of the alcohol, and the dilution of the alcohol in the stomach is also a factor to be considered.

"The only reliable way to determine a person's state of intoxication is to test the per cent of alcohol in his blood, breath or urine," it was stated. An average person who consumed five alcoholic drinks, each containing one-half ounce (15 cubic

centimeters) of absolute alcohol, within three hours would have consumed two and one-half ounces of alcohol (75 cubic centimeters) according to the consultant. This amount could cause a maximal blood alcohol of about 0.12 per cent by weight, if no oxidation took place. However, in the three hours of drinking, the individual would oxidize about one ounce of alcohol, thus reducing the blood alcohol to a maximum of about 0.08 per cent.

"From the standards set by the Committee on the Study of Motor Vehicle Accidents of the American Medical Association and the Committee on Tests for Intoxication of the National Safety Council, this would be interpreted as an amount that is usually associated with some loss of that clearness of intellect and self-control that he would ordinarily possess, but the obvious physical symptoms of the person should be taken into consideration before a diagnosis of intoxication is made," the consultant said.

"The unfortunate part of the calculations based on the amount consumed is that they can show a possible maximum blood alcohol, but the actual amount is usually unpredictably below this figure."

THE USE OF CATION RESINS IN THE TREATMENT OF EDEMA*†

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The use of ion exchange resins in chemistry and industry has been an accomplished fact for approximately twelve to fifteen years^{17,3}, but their value in the field of medicine has not been fully explored. A principle allowing the removal of certain ions from solutions of various types has led to speculation and experiment in medicine including the fixation of dietary sodium for alleviation and prevention of edema formation^{3,8,9,10,18}, the therapy of hyperkalemia in renal failure, the determination of free gastric acidity without intubation, decalcification of blood to inhibit coagulation^{3,17}, decalcification of bone specimens for sectioning¹⁷ and other situations not yet fully explored. This brief discussion is limited to medical uses of the cation resins and the many, varied and precise maneuvers of chemistry and industry involving the use of ion exchange resins may be found in detail elsewhere.

This report is concerned primarily with the use of cation exchange resins in the treatment and prevention of cardiac edema, edema of cirrhosis of the liver and nephrotic edema. We have had no extensive experience with edema of pregnancy, a matter of some promise in this field.

The control of edema by sodium restriction is accepted, but the accomplishment of satisfactory sodium restriction is not always possible. Therefore, a non-toxic substance that can be ingested for the fixation of dietary sodium has aroused increasing interest since Dock's first suggestion¹. It has been shown quite clearly that a cation resin may be used for this purpose in patients with edema^{4,5,7}. These same authors have pointed out the hazards and limitations of these substances^{4,5}. Prior to these clinical studies it had been thoroughly demonstrated that the cation resins used were non-toxic for animals and did not interfere with their growth reproduction hematological picture or life span^{6,2}.

It is not necessary here to review the theoretical mechanisms by which polyacrylic polycarboxylic cation exchange resins bring about fixation of sodium when taken internally and mixed with the food. It is important to say that these resins are reasonably efficient and a dosage of 45 to 60 grams of Resodec R* for example will fix 40 to 60 meq., of sodium depending upon the magnitude of sodium intake and the degree of congestive failure. It is also important to indicate that cation resins take up potassium magnesium and calcium as well sodium magnesium and calcium fortunately are not fixed in sufficient amounts to raise clinical problems of deficiency and this is also true of vitamins and other minerals. The problem of hypokalemia from potassium fixation was conquered by the proper mixture of the ammonium and potassium forms of cation resins so that as much potassium was absorbed as was fixed. Since this arrangement we have seen no suggestion of hypokalemia.

It is well to indicate in the beginning that the cation resin is not a cure-all, and not a complete solution for the dietary management of congestive heart failure or edema patients. A subsequent paragraph will indicate that the capacity of the resin is not sufficient to take care of a full diet and the patient must not expect to eat as much salt as he wishes, for some degree of dietary sodium restriction will be necessary even with full resin dosage. Furthermore, it is important to state that the cation resin is not indicated in all heart failure patients. Many patients with congestive heart failure respond to rest, digitalis, and moderate restriction of their sodium intake and will remain compensated for months or even years under such a regime. However, a number of patients with heart failure and edema are

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*Resodec^R used in the study has been furnished by Smith, Kline and French, of Philadelphia. Resodec^R is a highly cross-linked, polyacrylic polycarboxylic cation exchange resin. It contains enough of the potassium resin to provide 20 mm. Eq. of potassium per dose and the balance is made up of ammonium resin. This figures out 3.33 grams (dry weight) of potassium resin and 11.67 grams (dry weight) of ammonium resin³.

unable to reach a suitable level of sodium restriction. In these patients a proper administration of a cation resin may be extremely helpful as an adjunct in treatment. This is particularly true of patients with long standing chronic congestion who have even become refractory to mercury following the exhibition of the cation resin brilliant results with mercurial diuretics may be restored and longer intervals between injections accomplished. In brief, the more severe and more refractory cases of congestive heart failure appear to be the ones to whom this principle may be properly applied.

In addition, as noted below, it has been our experience that the obstinate edema associated with nephrosis sometimes may be profitably attacked by this method. Particularly striking have been several instances in which considerable diuresis in cirrhosis of the liver with acites has followed the use of the resin alone, whereas potentiation of mercurial diuretics following the use of the cation resin has been brilliant in several instances. Recently, an excessively edematous patient suffering from constrictive pericarditis was better fitted to face the ordeal of operation following the use of the cation resin.

The dosage of Resodec^R is usually 15 grams in fruit juice after each meal, making a total of 45 grams daily. Sixty grams appears to offer little if any advantage. Since the capacity of a cation resin is limited in this dosage to the fixation of 50 to 100 meq. sodium daily the patient should be on a moderately low sodium diet of 1,000 to 1,200 mgms. of sodium daily. A cation resin must not be expected to fix the large amounts of salt in a regular unrestricted diet. In previous studies⁵ we have indicated that the sodium binding effect of the resin continues for some time after resin is discontinued by mouth, generally two or three days. Therefore, administration of the resin four days of each week is usually enough or a smaller daily dose of 15 grams morning and night will generally keep the effect going.

The taste of most cation resins is not pleasant but a minor inconvenience compared to the relief obtained. Constipation, sometimes diarrhea, and rarely vomiting, may occur, but vomiting has only occasionally proved troublesome. Small initial dosage often solves this problem. The question of the acidosis often accompanying resin administration is discussed below.

The effects of the administration of an ammonium and potassium resin (Resodec^R) may be briefly discussed. It is not always possible to explain all effects or to evaluate the therapeutic value of the resin while other measures of treatment are being used. However, it was our impression that the resin produced a decided restriction of sodium re-absorption in the three non-edematous cases studied, perhaps a mild acidosis, and perhaps a slight elevation of plasma chloride. As noted above, the effect lasted several days after the resin was discontinued.

In cardiovascular patients with edema, twenty of twenty-eight patients showed added clinical improvement following the use of the resin which appeared to be attributable to the resin. In eight of these the results were quite striking, as conventional measures with digitalis, ammonium chloride and mercury had failed until the resin alone.

In fifteen of twenty-six patients marked potentiation of a mercurial diuretic occurred following the use of resin, with a slight or indifferent effect in the remaining eleven. The remaining congestive heart failure patients did not require a mercury diuretic. In diuresis careful and specific trials with ammonium chloride had previously failed. Other observers have noted this but have failed to elucidate the true reason for the apparent superiority of an ammonium potassium cation resin over the equivalent amount of ammonium chloride.

The whole question of potentiation of mercurial diuretic by a cation resin needs further study. In this regard it may be noted that Resodec^R brought about an elevation of the plasma chloride from a lower to a higher figure in nineteen out of twenty-two patients with congestive heart failure where this observation was made. Furthermore, a mild to moderate acidosis was produced in twelve out of twenty patients with congestive heart failure. Cation resin administration, therefore, leads to the two states commonly accepted as necessary for potentiation of mercurial diuresis—namely, adequate plasma chloride levels, and diminished plasma bicarbonate levels^{12,13}. Again, it is not clear whether these two effects are the result of ammonium chloride absorption associated with administration of ammonium-potassium cation resin or a combination of this and the restriction of sodium absorption.

At no time have we encountered an uncompensated acidosis with hyperpnea. The lowering of the plasma

bicarbonate has been temporary, as noted in Fig. 1, and the effect of the acidosis has been in general similar to the familiar effects of ammonium chloride. The potassium form of the resin mixed with the ammonium form in proper proportion offsets to an appreciable extent the loss of fixed base and partially prevents acidosis¹⁹. We have had only limited experience with the anion-cation mixture¹⁴.

The favorable effects of restriction of sodium absorption with temporary acidosis is well illustrated in Mrs. H. E. (Fig. 1). This lady of sixty with

maintained at zero following Resodec^R in spite of steady diuresis and loss of edema. Urinary potassium excretion was maintained at adequate levels and serum potassium remained normal. Plasma chloride levels remained normal in spite of marked diuresis and a mild to moderate loss of plasma bicarbonate returned toward normal even with continued resin administration. The patient was discharged on the fifth hospital day and handled thereafter as an outpatient. On the twelfth day Resodec^R was reduced to thirty grams daily and clinical comfort and rel-

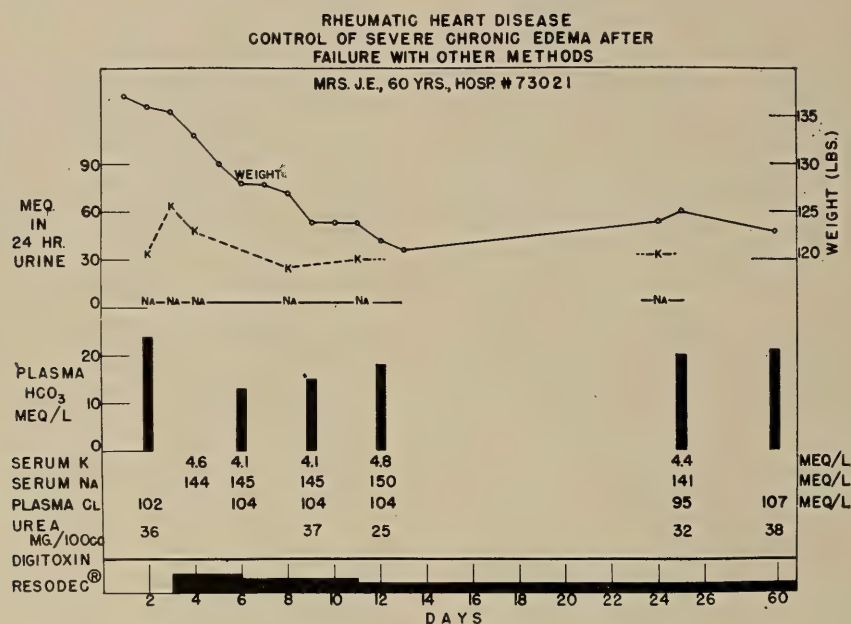


Fig. 1.—Mrs. H. E.—Rheumatic heart disease with aortic stenosis and regurgitation and mitral stenosis and regurgitation. Chronic congestive heart failure with edema requiring ammonium chloride and mercurial diuretic every ten days for all year prior to resin administration. Maintenance digitalization with digitoxin unchanged. Hospitalization first few days, outpatient thereafter.

Table indicates mitral fall of plasma bicarbonate following resin administration with gradual recovery to near normal levels on continued resin dosage. Mercury unnecessary after resin was started.

advanced rheumatic heart disease, aortic regurgitation and mitral stenosis had suffered from congestive heart failure and edema for months. For over a year she had received a mercurial diuretic every ten days, each injection preceded for three days by six to eight grams of ammonium chloride daily. This routine became less and less effective and she entered the hospital for ammonium potassium cation resin therapy on day "one" of Fig. 1. Up to this time she had been on a diet of 1,000 mgm. of sodium to which she had faithfully adhered. Complete digitalization with digitoxin had been maintained for years and the daily ration unchanged. No medication was given except the usual digitoxin and Resodec^R, although excreting no urinary sodium re-

actively edema free weight maintained on this dosage. No diuretic of any kind has been given since the first day of Resodec^R and she has continued to remain up and around with minimal edema on this regime for nearly five months. The period of observation has now extended to one hundred and fifty days on resin instead of the period of sixty days shown in Fig. 1.

The foregoing does not imply that cation resin administration is free from danger. Two major hazards exist, the low salt syndrome¹⁵ even in the presence of relatively good renal function and the aggravation of an already existing kidney inadequacy.

The low salt syndrome has occurred twice with

us during resin administration and fortunately this state has been corrected without mishap on both occasions. The best safeguard against this hazard is a thorough appreciation of the syndrome and the attendant dangers.

Occasionally it may be necessary to use the cation resin in the face of renal insufficiency, but the danger is considerable and, as in all such situations, edema loss is generally bought at the price of azotemia.

In one patient with chronic glomerular nephritis, uremia, and massive edema, the resin was deliberately used in the face of renal insufficiency with a resulting moderately severe acidosis. Considerable edema fluid was lost, with relief to the patient, but the blood urea mounted rapidly from 88 mgm./100 cc. to 177 mgm./100 cc. Renal insufficiency has been commonly accepted as a prime contraindication to cation resin administration. Effects of sodium depletion by resin therapy during uremia and the unfavorable mechanisms involved have been recorded¹⁶. Six patients with cirrhosis of the liver, edema and ascites have received the resin from four to fifteen days. Every one of the six patients studied had a proved biopsy diagnosis of portal cirrhosis. Two patients showed a marked diuresis on resin alone. The remaining four showed a marked mercurial effect following resin, although mercury and ammonium chloride had previously failed in two.

Four patients with the nephrotic syndrome of chronic nephritis were studied. One appeared to be a failure largely because of the accompanying glomerulo-nephritis; obviously he was not a suitable candidate for the cation resin which produced nausea. In another who had the nephrotic syndrome associated with chronic glomerulo-nephritis, the renal function was good at the time, and a moderate diuretic response followed the cation resin alone. Also marked mercurial diuresis helped bring about a loss of 42 pounds in a brief period of 23 days. Here, again, the diuresis may have been spontaneous and coincident with resin administration, but at least the patient had been refractory to the usual methods of treatment for six weeks prior to resin administration. This patient has remained well and edema free for several months with complete resumption of all activity. In the two remaining nephrotic patients the results of resin therapy were poor. Renal failure increased and azotemia mounted so that the

resin was discontinued. Again, it should be emphasized that adequate renal function in the nephrotic syndrome should be prerequisite to cation resin administration.

Two patients with constrictive pericarditis were observed following resin administration. One appeared to show a moderate loss of edema from resin effect while the other benefited decidedly by moderate diuresis from the resin alone, and moderate to marked potentiation of a mercurial diuretic.

The question has arisen on a number of occasions as to just what simple rules should be followed to ensure relative safety during administration of a cation resin. Obviously, all physicians may not be able to follow patients with detailed chemical analyses.

It would seem unwise to administer resin to a patient with an appreciable degree of renal insufficiency and, generally speaking, nitrogen retention in the blood should be considered a contraindication to its use. Daily weight recordings are essential to the management of an edematous patient. Finally, a reasonable good appetite and a reasonable good flow of urine should be present before a cation resin administration. Moderate to marked diuresis nearly always follows a mercurial diuretic and failure of mercurial diuresis during the course of resin administration may well be indicative of renal failure, or the low salt syndrome, or both. Hyperpnea, nausea and vomiting are signals for immediate discontinuance of the resin, and these symptoms should be followed up by determinations of plasma chloride, plasma bicarbonate and blood urea or similar blood nitrogen studies. The therapeutic use of a cation resin is not without danger and requires caution and detailed attention.

SUMMARY

An ammonium-potassium cation resin has been given to three subjects without edema and forty patients with edema. Suitable clinical and laboratory studies have been carried out on these individuals.

This cation resin restricts sodium absorption in therapeutic dosage to the order of 40 to 60 meq., of sodium daily. Sodium dietary restriction is necessary to a moderate degree during resin administration.

The low salt syndrome and aggravation of existing renal insufficiency are the chief hazards from cation resin administration. Failure to recognize these

dangers may lead to serious states, including uremia.

Cation resin therapy may be a helpful adjunct in selected cases of heart failure with edema and cirrhosis of the liver with ascites and edema. It is not a cure-all and should not be used in all patients with edema.

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PRIMARY CARCINOMA OF THE LIVER†

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Virchow is credited with the dictum that "such organs as are frequent sites of metastatic tumor are rarely the site of original neoplasm". This is particularly true when applied to malignancies of the liver, for, while the liver is frequently invaded by metastatic tumor, the incidence of primary carcinoma of the liver is rare, indeed. Nevertheless, it occurs with sufficient frequency to be of importance, especially in the differential diagnosis of obscure abdominal disease, and is rarely diagnosed antemortem. This paper analyzes thirty-eight cases collected at the Medical College of Virginia Hospitals, the McGuire Veterans Hospital, St. Lukes, St. Elizabeths, and Stuart Circle Hospitals.

INCIDENCE

The percentage of cancers of the liver that are primary varies from 1.2 per cent to 17 per cent as reported by various authors quoted by Warvi.¹ The overall autopsy incidence of primary carcinoma of the liver averages about 0.5 per cent in the western world, as reported by Charache.² The total number of cases recorded in the world medical literature is now well over 1400.

The age distribution of primary carcinoma of the liver ranges from that of a case reported in a fetus³ to very old age. It is very definitely a disease of the sixth and seventh decades, however. In our series there was one case occurring in each decade to age 30, three from 30 to 39, 26 from 40 to 70, three from 70 to 79, and two in the 80 to 90 age range.

There is a male preponderance reported in the literature. Our cases showed about a two to one ratio, consisting of 25 males and 13 females. There were seven colored cases and thirty-one white cases, which is probably roughly parallel to the admission rates of the two races. Gustafson,⁴ in reviewing 24,000 autopsies in Bellevue Hospital over a period of thirty years, found no increased incidence in negroes but a

definitely increased incidence among Chinese and Japanese.

PATHOLOGY

Primary carcinoma of the liver may be divided into three major groups: hepatocellular carcinoma, or hepatoma; cholangioma, and cholangiohepatoma.

Hepatoma arises from parenchymatous liver cells. It is frequently associated with cirrhosis, either as multiple nodules or in the form of a massive tumor growth which may involve a large area of the liver, but, except for grouping of secondary growths around it, may leave the rest of the liver relatively normal. The microscopic picture is one of liver cells arranged in irregular fashion, showing great variation in cell type, abnormal staining features, mitoses, and multinucleated and giant cells.

The second large group morphologically is cholangioma, a neoplasm arising from intra-hepatic bile duct cells. The massive solitary form of tumor is not seen, the growth being scattered throughout the liver. Microscopically it is composed of columnar or cubical cells which may be arranged in duct-like structures.

The third group consists of cholangiohepatoma which is composed of neoplastic proliferation of bile duct cells and liver parenchymal cells. There is usually a predominance of the bile duct character, for this tends to grow and spread more rapidly.

Hepatomas outnumber cholangiomas from a three to one ratio, according to Hoyne,⁵ to 92 per cent of 49 cases reported by Wilbur.⁶ In our series there were 26 cases of hepatoma, 11 of cholangioma, and 1 of cholangiohepatoma. Twenty-eight cases were diagnosed by autopsy, ten by biopsy. Portal cirrhosis was present in 11 of 26 cases of hepatoma. Biliary cirrhosis was present in 1 of 11 cases of cholangioma. These do not approach the figures of Ewing,⁷ who believed that cirrhosis was associated with 85 per cent of the cases of hepatoma and 50 per cent of cases of cholangioma, but are in line with figures given by others.^{8,1}

The liver was reported to be large, or above 2000 gms., in 20 of the 23 cases of hepatoma in which the

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size of the liver was noted, and in six of the seven cases of cholangioma in which the liver size was noted. The liver in the case of cholangiohepatoma was 1500 gms. The largest weights given were 4380 gms. for a hepatomatous liver, and 4325 gms. for a cholangiomatous liver. Nodules were noted to be numerous or scattered throughout the liver in all except two cases of hepatoma which had single tumors. One of these was quite small and was found by chance in an autopsy of a patient who died with chronic leukemia. The other was quite large and was diagnosed by biopsy at the time of an exploratory laparotomy.

Ascites was reported as being present in four cases of cholangioma, twelve cases of hepatoma, and in the case of cholangiohepatoma. In one case of hepatoma and one case of cholangioma the fluid was noted to be bloody. The spleen was not enlarged unless there was portal obstruction.

Intra-hepatic metastases are common and probably account for the extensive nodule formation throughout the liver. The spread may be by lymph channels, but is largely hematogenous since the cancer cells are prone to invade blood vessels and may form thrombotic masses in hepatic veins, often extending into the portal or more distant veins. This occurred in six cases. Gregory⁹ reported a case of tumor thrombosis of the inferior vena cava and right auricle with symptoms of vena caval obstruction, and found eleven other cases in the literature.

Extra-hepatic metastases are surprisingly uncommon, occurring in 15 of 27 autopsied cases on which pertinent data was available. Two of these were tumor thromboses of the portal vein. There were metastases to regional lymph nodes seven times, to one or both lungs six times, to the pancreas three times, to the adrenals twice, to the stomach twice, in one of which the entire anterior wall was replaced by malignant cells with ulceration, to the vertebral bodies twice, to the skull and ribs once, and to the brain, kidney, heart, and pericardium once. Thus there were 28 metastases in 15 cases which showed extra-hepatic metastases. Metastases have also been reported to the pleura, long bones, epidural space, spinal cord, peritoneum, and prostate. Auerbach¹⁰ reported a case with extensive skeletal metastases and panmyelophthisis. One of our cases that showed a profound anemia with hemoglobin of 58 per cent and RBC 2.8 had metastases to the vertebral bone

marrow. There were extrahepatic metastases in the case of the cholangiohepatoma. It would appear that cholangiomas are more invasive, for extra-hepatic metastases occurred in 4 of 5 cases of cholangioma and 10 of 21 cases of hepatoma.

ETIOLOGY

The variations in incidence of primary carcinoma of the liver are arresting and undoubtedly contain clues as to its etiology. Bonne¹¹ reported primary hepatic carcinomas to be the most frequently encountered malignancy in the Netherland East Indies and Singapore, and the second most frequently encountered malignancy in Japan. This has been attributed by Strong¹² and others to the high incidence of intestinal parasites and schistosomiasis in these areas with chronic irritation and development of cirrhosis. An azo dye used widely as a coloring agent in the Japanese diet induces primary carcinoma of the liver in rats and mice.¹³ Webb¹⁴ considers dietary deficiencies to be the common denominator explaining the racial and geographic distributions. Symmers¹⁵ reviewed five cases of schistosoma hematobium involvement of the liver in which cirrhosis was found and concluded that the cirrhotic changes were most likely attributable to the miserable dietary conditions under which those patients lived. Experimentally, avitaminosis B has been shown to predispose to carcinoma in the presence of excessive dietary fats or administration of carcinogenic agents.

As has been stated, there is a close relationship between cirrhosis and primary carcinoma of the liver. Loesch¹⁶ has estimated that on the average one out of eight cases of cirrhosis develop hepatoma.

CLINICAL COURSE

The presenting signs and symptoms of primary carcinoma of the liver are not unlike those of malignancy in other parts of the body; i.e., loss of weight, loss of strength, malaise, anorexia, etc., plus the particular indications which locate it in the liver.

Pain was the most prominent symptom in our series, being present in 25 of 36 patients (69 per cent). It was present in every case that had extra-hepatic metastases and was present more uniformly in cholangioma (8 of 11 cases) than in hepatoma (16 of 24 cases). It was the presenting complaint alone or in combination with other symptoms in 21 of 36 cases (58 per cent). It occurred in varying severity from agonizing to a mild discomfort. It usually

occurred in the right upper quadrant, epigastric or umbilical regions but was most severe in the back in several patients.

Weight loss varying from slight to 50 lbs. was present in 23 patients (64 per cent). Weakness and malaise were present in 18 patients (50 per cent) and was marked in 7.

Gastro-intestinal symptoms were frequently present but followed no characteristic pattern. Appetite was specified as being poor in 11 cases, indigestion, "gas", belching, or nausea were present in 14, and change in bowel habits occurred in 8 patients, 3 of whom had diarrhea and 5 constipation.

The most frequently noted physical finding was an upper abdominal mass which occurred in 26 of 37 cases (70 per cent). Ascites was noted to be present clinically in 15 cases (40 per cent). It was bloody in only 2 cases.

Edema was present in the case of cholangiohepatoma, in 6 cases of hepatoma, and 2 cases of cholangioma. Fever was present at sometime in the duration of 20 cases (54 per cent), especially terminally. Anemia of less than 12 gms. was present in 19 cases (50 per cent). The white count was very variable, and when elevated appeared to be related to an intercurrent infection or hemorrhage rather than to the carcinoma. No correlation could be made between the carcinoma and urinary findings or blood chemistries.

Liver function studies were frequently not done and usually were of little value since they were either negative or there was other evidence of severe liver disease when they were positive. Nevertheless, in several cases abnormal liver function tests were the first indication that the liver was the site of the disease process.

X-ray studies may be helpful in making the diagnosis by demonstrating an elevated fixed right diaphragm, a large upper abdominal soft tissue mass, or displacement of stomach or colon by extrinsic pressure. In ten cases one or more of the above abnormalities were demonstrated but x-ray changes are usually a late finding.

The clinical findings in order of frequency were upper abdominal mass (70 per cent), pain (69 per cent), weight loss (64 per cent), fever (54 per cent), jaundice (52 per cent), weakness and malaise (50 per cent), anemia (50 per cent), ascites (40 per cent), gastro-intestinal symptoms of anorexia,

indigestion, and change in bowel habits, edema, x-ray abnormalities, and abnormal liver function tests. Similar findings are listed by all authors in case reports but the percentages vary widely, probably depending upon associated or underlying conditions such as the presence or absence of dietary deficiencies, cirrhosis, schistosomiasis, etc. There seemed to be little difference in symptoms on a percentage basis between hepatoma and cholangioma, although this is admittedly a small series.

This is one of the most rapidly fatal of malignancies. The average interval between the onset of symptoms and death was four months, the shortest was two days, and the longest eighteen months. Admittedly the time of onset of symptoms due to carcinoma of the liver was hard to determine in some cases of cirrhosis who had had known liver damage for several years.

DIAGNOSIS

The diagnosis of primary carcinoma of the liver was suspected in only two cases in this series, which indicates that it is not considered in differential diagnosis as frequently as it should be even though it is a diagnosis that can be finally established only by biopsy or autopsy.

Our cases fit well into the four classical groups suggested by Ewing⁷: (1) Those in which no symptoms are detected and the patient dies suddenly from hemorrhage or after an illness of several days. (2) Those in which latent carcinoma is found among patients who succumb to cirrhosis or other diseases. (3) Those in which the usual history of cirrhosis terminates rapidly with hepatic tumor, jaundice, ascites and cachexia, and (4) those in which the usual history of a malignant tumor, indicating from the first involvement of the liver, develops among previously healthy patients.

Groups one and two admittedly cannot be suspected clinically, but it is important that three and four should be diagnosed more frequently and earlier if the patient is to have a chance for effective treatment. It is our feeling that this disease can be diagnosed clinically if the signs, symptoms, and clinical course are kept in mind.

TREATMENT

Treatment of primary carcinoma of the liver is entirely surgical, since x-ray and other agents are of no value. We are unable to agree with those who

believe that surgical exploration is not justified as a diagnostic procedure and therapeutically offers nothing in primary carcinoma of the liver or in those diseases most apt to be confused with it, such as cirrhosis of the liver.

Most patients in whom this disease is suspected have a hopeless outlook. Their one chance for survival is that they might have a non-malignant condition amenable to surgery, or that they might have a single hepatoma nodule that can be removed. These patients will largely fall in group four, and it is our opinion that patients with that clinical picture should have the benefit of an exploratory laparotomy. We are unable to support this statement by the course of any patient in our series, but Wallace¹⁷ collected 29 cases of hepatomas treated by resection, of which five lived two years, three lived three years, and four lived for more than five years.

SUMMARY

The hypothetical patient with primary carcinoma of the liver will be a male in his 60's with a three to six month history of indigestion, dyspepsia, and gradually developing upper abdominal pain and fever who finally presents himself to his physician probably because of pain, upper abdominal mass, weight loss, or jaundice. He has lost some weight, possibly a considerable amount, and his appetite has diminished. His abdomen has become full and distended. On physical examination he shows obvious wasting, usually jaundice, and frequently evidence of ascites is present. As a rule his liver is easily palpated and nodules may be felt. Laboratory studies may show liver damage, anemia, and leucocytosis. He fails to respond to transfusions, high protein diet, and other supplementary measures and finally dies some three to ten months after his symptoms began.

The literature on primary carcinoma of the liver has been reviewed and thirty-eight cases have been analyzed.

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DISCUSSION

DR. ROBERT F. BONDURANT, Roanoke: We have just heard a good paper on a little discussed subject. In round figures there have been only 1,600 cases of primary carcinoma of the liver reported in the literature. Here we have 38 well analyzed cases. Dr. Higgins and Dr. Thompson are to be congratulated for this contribution.

As has been pointed out, there is a puzzling variation in the geographic incidence of this disease. In the Orient it accounts for 14% of all carcinoma, whereas in the United States and in Europe it accounts for only 1% to 2% of all carcinoma.

Any process that can cause destruction or inflammation of liver tissue may be considered potentially carcinogenic. Two-thirds of the patients with primary carcinoma of the liver have an associated cirrhosis. Anywhere from 4% to 8% of patients with cirrhosis develop primary carcinoma of the liver. These facts cannot be taken at face value however. There has been an increase in the incidence of cirrhosis in the past few years and no commensurate increase in primary hepatic carcinoma. It is well known that cirrhosis plays no part in this disease in infants and children.

Hemachromatosis, a rare disease in itself, is often complicated by primary carcinoma of the liver. The incidence is about 10%.

There have been many suggestions made to explain the variation of the incidence of primary hepatic carcinoma geographically.

(a) Parasitic Infestation of the Intestinal Tract.—There is much evidence to suggest this, but the populace in the Nile Valley have a high degree of parasitic infestation without an equally high incidence of primary carcinoma of the liver.

(b) Some have suggested it is a disease of the pigmented races. The Bellevue Hospital statistics about Negroes just quoted in this paper would not support this.

(c) Probably the most readily acceptable theory is that of dietary deficiency.

Dr. Higgins and Dr. Thompson have explored the clinical features of this disease thoroughly. The key to this diagnosis is a high index of suspicion. This is especially

true in patients with cirrhosis and in patients with hemachromatosis.

This paper advocates surgical exploration and ample reason for this advocacy is given. Some would suggest diagnosis by needle biopsy or by peritoneoscopic examination. Ruddock, in 1939, and a group at the Mayo Clinic in 1950 report in combination 700 to 800 cases of tumors of the liver. They were able to accurately diagnose 93% to 94% of them by peritoneoscopic examination.

The diagnosis of primary carcinoma of the liver rests on direct inspection of the liver and, at times, biopsy. A word of caution: whenever biopsy is to be done the prothrombin value should be known. Many of the fatalities occurring after biopsy have been associated with low prothrombin values.

It is important to differentiate the primary disease from

metastatic malignancy of the liver. In metastatic malignancy the course of the disease is longer, splenomegaly is seldom prominent, and cirrhosis is usually absent. The primary site is usually found by ordinary means of diagnosis.

In differentiating the patients with cirrhosis complicated by malignancy from those with cirrhosis alone, pain is probably the best clinical guide.

Primary carcinoma of the liver may at times be confused with almost any condition in the abdomen from infection to the surgical emergencies.

As surgery early in the disease is the only definitive treatment, early diagnosis is important. Early diagnosis is possible by the means suggested in this paper.

I wish to thank Dr. Higgins and Dr. Thompson for the privilege of discussing this paper.

Possibility of Cure Best in Early Diagnosis of Cancer Larynx.

Early diagnosis and treatment of cancer of the larynx can result in a high percentage of cures and restoration of the voice, according to an article in the May J.A.M.A. The location of the larynx and the type of malignant lesion that occurs in it make it possible to cure a larger percentage of cancers in this organ than in any other part of the body except the skin, according to Dr. Gabriel Tucker, of the department of bronchology, esophagology and laryngeal surgery, graduate school of medicine, University of Pennsylvania, Philadelphia. "Therefore," he added, "it is essential that effort is made in all suspicious cases to secure early diagnosis by careful examination and careful study of the symptoms. These early symptoms are hoarseness and local discomfort."

Surgical removal, irradiation, or, in certain cases, both, are the well-established methods of treating this disease, Dr. Tucker stated. Surgery is the treatment of choice in selected cases. Irradiation has proved most valuable in cancer in the older age group and in those patients whose general condition

makes surgery an unwise procedure. The use of antibiotics in surgical cases and in surgical treatment of postirradiation cases has aided in obtaining favorable results, he said.

Dr. Tucker reported that of a group of 152 patients with laryngeal cancer who were treated with surgical removal of part of the larynx, 86 per cent were free from recurrence of the disease for five years or longer. Of 102 patients treated by complete removal of the voice organ, 61 per cent were free from recurrence for five years or longer.

Although complete results could not be obtained in cases where cancer of the larynx was treated by irradiation, Dr. Tucker said he believed five year cures were obtained in at least 25 per cent of those patients treated by this method.

"Rehabilitation and the possibility of developing an esophageal voice following the complete removal of the larynx are excellent," Dr. Tucker pointed out. "In the older age groups, difficulty with the esophageal voice may be experienced, and many patients prefer using an artificial larynx (electrolarynx), which produces a good voice and enables the patient to resume his place in the social and business world."

THE MANAGEMENT OF CHRONIC COR PULMONALE WITH FAILURE*

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and

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DEFINITION

Chronic cor pulmonale or pulmonary heart disease, by definition is heart disease resulting from pulmonary disease; or, more specifically, right ventricular hypertrophy with or without heart failure, resulting from hypertension of the pulmonary vascular system. Cyanosis and polycythemia are usually associated.

UNDERLYING PULMONARY DISEASE

The basic pathology in cor pulmonale is usually found in the lungs, and diseases such as emphysema, diffuse fibrosis, silicosis, Boeck's sarcoid, berylliosis, tuberculosis, bronchiectasis, kypho-scoliosis and multiple emboli constitute the majority of basic conditions found. However, a condition such as an aneurysm of the ascending aorta, causing pressure on the pulmonary artery and restriction of pulmonary artery flow, will lead to right ventricular hypertrophy and subsequent failure. Emphysema, though, is the most frequent offender, as indicated by a recent report¹ that emphysema was present in 69% of 48 patients with chronic lung disease with circulatory complications.

PATHOLOGICAL PHYSIOLOGY

Before discussing the management of cor pulmonale with failure, it appears important to review the pathological physiology of the underlying pulmonary disease. Emphysema will thus be of primary concern, whether it be the predominant factor as with obstructive emphysema, or whether it be a compensatory type as with silicosis, tuberculosis and kyphoscoliosis, providing a mechanical factor such as an aneurysm of the ascending aorta is not present.

The pathological physiology of emphysema will be divided into pulmonary features and circulatory features.

PULMONARY FEATURES: The lungs characteristically present a loss or fragmentation of normal pulmonary elastic tissue, a narrowing of the bronchial

tree, due to bronchiolar spasm, secretions, or thickening of the mucosal lining, and numerous blebs, bullae and air cysts. They then become hyperinflated, as demonstrated by physical examination and x-ray, since the alveoli are markedly widened due to the breakdown of elastic tissue. There follows an increase in total lung capacity, but, more important, an increase in the residual volume. This latter is usually associated with an increased total lung capacity; however, the total *functional* lung capacity may be reduced because of air trapped in the blebs, bullae or air cysts which do not communicate with the trachea. Vital capacity which is a function of total lung capacity, and residual volume may be either normal or reduced, the latter occurring as the residual volume becomes greater.

Maximum breathing capacity is usually reduced out of proportion to the decreased vital capacity, and with this there is a decreased breathing reserve² and dyspnea.

In addition to the effects of emphysema on the mechanics of breathing and lung volume, there is an alteration of the process of gas exchange.

The exchange of oxygen and carbon dioxide between mixed venous blood, and the atmosphere is the major function of the lungs and a decreased arterial oxygen saturation or an increased partial pressure of carbon dioxide is direct evidence of a defective gas exchange. These findings are manifest clinically by hyperventilation.

Defective gas exchange has been found^{2,3} to occur in emphysema because of uneven distribution of inhaled air and of pulmonary capillary blood flow. Inhaled air is unevenly distributed because of the bronchiolar narrowing, local variations in elasticity and the presence of air cysts and blebs which trap air, as mentioned above. This leads to under-ventilation of some alveoli and over-ventilation of others. The normal ventilation of alveoli with reduced capillary blood flow results in the formation of an increase in the respiratory dead space since the transfer

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*Read before the annual meeting of The Medical Society of Virginia, at Virginia Beach, October 7-11, 1951.

of oxygen and carbon dioxide cannot occur in those areas. This leads to hyper-ventilation of the whole lung, overwork, and then dyspnea. On the other hand, normal circulation to alveoli with poor aeration is in essence a right to left shunt of blood, with resulting anoxemia. If hyper-ventilation of remaining well aerated and well perfused alveoli is adequate, carbon dioxide retention does not occur, but if anoxemia is present, it cannot be corrected significantly by hyper-ventilation since the oxygen saturation of the blood flowing through the alveoli cannot be raised more than 1-2% by inhalation of the 21% oxygen in the air.

CIRCULATORY FEATURES: Normally, the pulmonary vascular bed exhibits a marked distensibility and it can accommodate at least a three fold increase in pulmonary blood flow before an increase in pulmonary artery pressure⁴ occurs. In emphysema, however, due to the structural changes which occur,

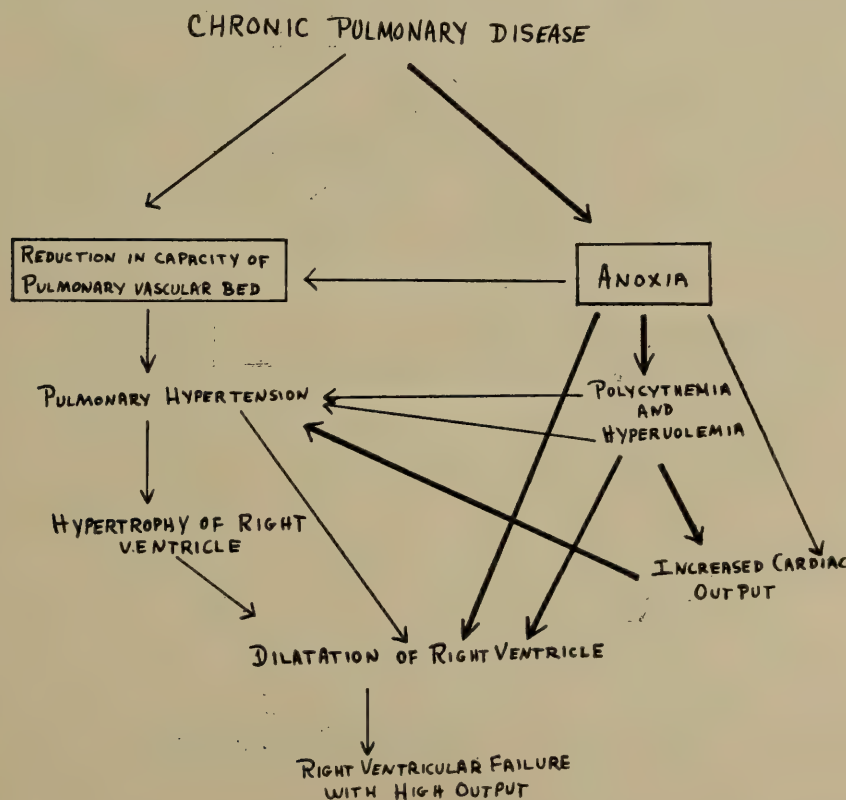
duce pulmonary hypertension, probably through the mechanism of local vaso-constriction⁵; thus there are two factors responsible for pulmonary hypertension in emphysema. Anoxia, which can be corrected with treatment, as will be discussed, is the most important factor in the production of the pulmonary hypertension.

Anoxia, in addition to its effect on pulmonary artery pressure, leads to polycythemia and hypervolemia. Furthermore, it has been shown⁶ that cardiac output increases in proportion to the severity of arterial anoxia.

Thus, summing up the effects of anoxia on the circulation, arteriolar constriction, pulmonary hypertension, polycythemia, hypervolemia, and increased cardiac output occur. How these factors are related in the production of cor pulmonale is shown in Fig. I and II.

When the nature of the pulmonary disease is such

FIGURE I



the vascular bed is restricted. Pulmonary artery hypertension is then favored with any increase in blood flow, such as would occur with exercise or infection. In addition, hyper-ventilation is not adequate, with the increased demand imposed, and anoxia occurs. Anoxia, alone, has been shown to pro-

duce pulmonary hypertension, probably through the mechanism of local vaso-constriction⁵; thus there are two factors responsible for pulmonary hypertension in emphysema, the changes in circulation occur as mentioned, and high output failure results. This is shown in Figure I.*

*From "Some Aspects of the Pulmonary Circulation in Normal Man and in Chronic Cardio-Pulmonary Disease," by Andre Cournaud, *Circulation*, 11:641, 1950.

Anoxia, assuming more importance than a structurally restricted vascular bed, as indicated by the heavy arrow, leads to polycythemia and hypervolemia. These in turn lead to an increased cardiac output, which is also affected by anoxia, and this increased output, through a restricted vascular bed, raises pulmonary artery pressure. Anoxia, however, further reduces the capacity of the pulmonary vascular bed by the mechanism of vasoconstriction. Because of the increased output, pulmonary hypertension, increased blood volume and direct effect of anoxia on the strained right ventricle, the myocardial fibers reach their maximum stretch, and right ventricular failure occurs.

Heart failure, in this instance, can likely be reversed if anoxia is corrected.

When the nature of the pulmonary disease is such that the vascular bed is severely restricted, and assumes more significance than anoxia in the production of cor pulmonale, as occurs in silicosis, heart failure is of low output type. This is shown in Figure II.*

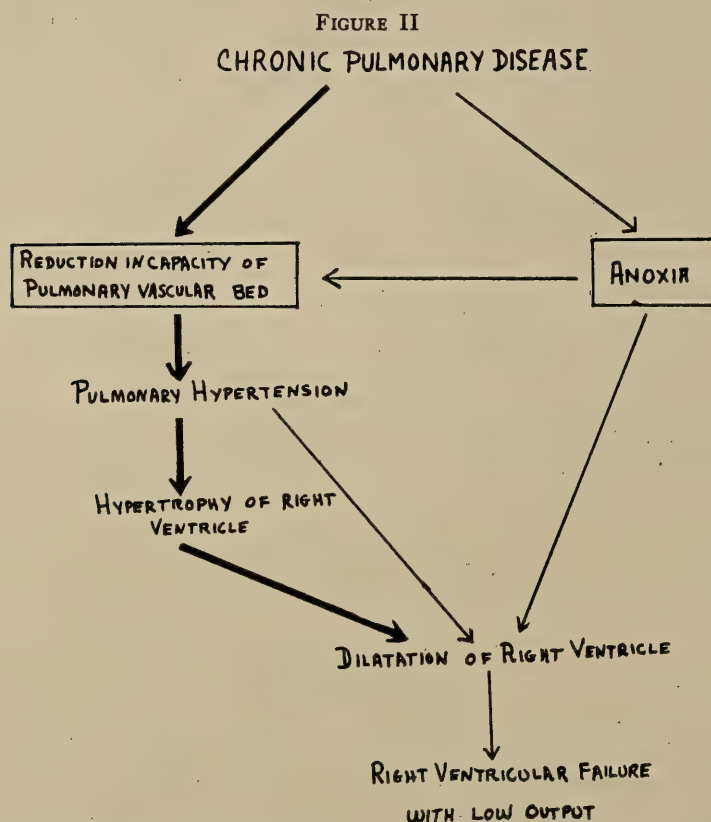
heart failure. Since the pulmonary structural changes cannot be reversed, the heart failure is for the most part irreversible.

STUDIES TO BE DONE

Before treating chronic cor pulmonale with failure, it is important that certain studies be done, which will be helpful in establishing the diagnosis as well as in establishing a base-line by which the effects of treatment may be followed. These are outlined in Figure III.

FIGURE III
STUDIES

- X-ray and Fluoroscopy
- Electrocardiogram with particular reference to right precordial leads
- Venous pressure
- Circulation time
- Vital Capacity
 - a. before and after bronchial dilators
 - b. before and after digitalization
 - c. as a means of following progression of pulmonary disease
- Hematocrit



In this instance the restriction of the vascular bed is of most importance, as indicated by the thickness of the arrows, and another train of events leads to

(1) X-rays include a chest plate and chest fluoroscopy. The underlying pulmonary disease is usually apparent, in addition to which the presence

of a prominent pulmonary conus is evidence of pulmonary hypertension.

(2) Electrocardiograms may or may not show evidence of right ventricular hypertrophy. Figure IV shows the electro-cardiographic changes which must be present before a positive or a presumptive diagnosis of right ventricular hypertrophy can be made on an electrocardiographic basis.

FIGURE IV⁷

ELECTROCARDIOGRAPHIC CHANGES

Patterns indicating right ventricular hypertrophy

- I. 1. Ratio R to S greater than 1 in V3R and V1.
2. Ratio R to S less in V5 and V6 than in V3R and V1.
3. Delay in onset of intrinsicoid deflection in leads taken over the right side of the precordium.
Normal 0.01 to 0.023 seconds
Right ventricular hypertrophy 0.03 to 0.05 seconds
4. Notching of R in V1 absent except when Q is present.
5. Total QRS duration is less than 0.12 seconds
- II. Characteristic changes in V3R.
No changes in V1 to V6.
- III. Presumptive evidence of right ventricular hypertrophy.
Prominent S in Leads V4, V5 and V6 with normal V3R; V1 and V2. Increased R wave in AVR.

(3) Venous pressures, done by the direct method⁸ and using the anticubital vein at the level 10 centimeters anterior to the skin of the back, may or may not be elevated with right heart failure. Repeated determinations are a guide as to the effect of treatment.

(4) Circulation times, done by the arm to tongue method, are usually prolonged prior to treatment but, after treatment has been initiated, a decrease is indicative of a favorable response.

(5) The vital capacity, which can be done by either the flowmeter, the bellows or spirometer type apparatus, is usually reduced. Here, again, repeated determinations of vital capacity during treatment give information as to the response to treatment.

(6) The hematocrit determination which gives information as to red cell volume, is usually elevated. It is used as a guide in determining the necessity of phlebotomies, as will be discussed.

MANAGEMENT OF COR PULMONALE

The management of cor pulmonale with failure is a challenge. It necessarily includes the treatment of the pulmonary disease and its predisposing factors, as well as the treatment of the circulatory fail-

ure. The factors responsible for the production of cor pulmonale with failure in themselves constitute a vicious cycle, and this cycle must be interrupted before treatment is effective. Restriction of the vascular bed, resulting from chronic pulmonary disease, is, as mentioned previously, due to structural changes, and is irreversible; but anoxia, when an important factor, can be alleviated with proper therapy. The improvement of respiratory function and relief of anoxia will be considered under pulmonary phase of treatment.

THE PULMONARY PHASE includes, first, the control of allergic factors. These should be sought and alleviated, especially when asthma, a most frequent offender in emphysema, is present.

Specific medications to relieve bronchospasm and bronchial secretions are of utmost importance in the correction of anoxia. These include such drugs as aminophyllin, adrenalin, ephedrine and isuprel; the latter three may be used as aerosols. Potassium iodide is of importance in loosening bronchial secretions, and thus facilitating their expectoration. Antihistamines, by temporarily controlling the allergic factors, may help relieve bronchospasm and mucosal edema.

Antibiotics are useful in the treatment of pulmonary infections, which are often present and may increase the degree of anoxia so that failure is precipitated or aggravated.

Oxygen therapy, of course, is of utmost and immediate importance in relieving anoxia. Its use is not without danger⁹, however, and caution should be exercised during its administration. When patients with cor pulmonale have long standing high levels of arterial carbon dioxide the medullary respiratory center becomes insensitive as a controlling center of respiration, and the carotid and aortic bodies in the neck then assume the important role in control of respiration, by their response to anoxia. If anoxia is then relieved, hypoventilation and finally carbon dioxide narcosis result, since the stimulus to respiration is removed.

There have been reports^{9,10} of the use of Cortisone and ACTH in chronic pulmonary disease with improvement as judged by respiratory function studies and X-rays. In addition, these drugs have been used with varying results in *status asthmaticus*. Their use should be kept in mind in the treatment of the pulmonary aspect of cor pulmonale with

failure, particularly when other measures fail; however, extreme caution must be exercised, since they may aggravate the existing heart failure.

THE CIRCULATORY PHASE of treatment is the management of right ventricular failure. This, briefly, includes digitalization, which has been shown¹¹ to improve directly the failing ventricle, sodium restriction, use of cation exchange resins and mercurial diuretics. Phlebotomies are of importance in reducing the increased blood volume, and their use should be governed by hematocrit determinations.

It should be re-emphasized that the circulatory alterations in cor pulmonale in emphysema are, for the most part reversible, and since emphysema is present in the majority of instances of cor pulmonale with failure, this fact should offer a great impetus to therapy.

SUMMARY OF CASES

The following tables include a summary of important data compiled in following twenty-one patients with cor pulmonale with failure.

TABLE I	
Male	18
Female	3
Total	21
Ages	
Oldest	76
Youngest	39
Average	59.3
Underlying Pulmonary Disease	
Emphysema	21
a. Asthma	20
b. Silicosis	1
Other Heart Disease in Addition to Cor Pulmonale	
Coronary Sclerosis	2
Incidence of Heart Failure	21
X-ray Evidence of Right Ventricular Hypertrophy	14
Electrocardiographic evidence of right ventricular hypertrophy	
Typical	2
Presumptive	8
Correlation:	
8 of 14 with x-ray evidence of right ventricular hypertrophy also showed electrocardiographic evidence of right ventricular hypertrophy.	
8 of 10 with electrocardiographic evidence of right ventricular hypertrophy showed x-ray evidence of right ventricular hypertrophy.	

TABLE II	
CLINICAL AND LABORATORY OBSERVATIONS	
Hematocrit	
Number of patients	20
Elevated	17
Circulation Time	
Number of Patients	19
Increased	16
Venous Pressure	
Number of patients	19
Increased	12
Vital Capacity	
Number of patients	15
Decreased	15
Cyanosis	18
Clubbing of Fingers	9

TABLE III	
FOLLOW UP IN MONTHS	
Average time followed from onset of congestive failure to present time 28.1 months	
4 followed 48 months or more	
8 followed 36 months or more	
10 followed 24 months or more	
6 followed 12 months or more	
6 followed less than 12 months	
Four died	
1 after 48 months with heart failure	
1 after 3 months with heart failure	
1 after 2 months with carcinoma of liver	
1 after 1 month with empyema	

There were 21 patients followed, of whom 18 were males and 3 were females. The average age was 59.3 years. All patients had emphysema as the underlying pulmonary disease, due to asthma in 20 instances, and associated with silicosis in 1. Two patients had coronary sclerosis in addition to cor pulmonale with failure, but in 19 patients no other demonstrable heart disease was present.

All patients had evidence of congestive heart failure.

Fourteen patients presented X-ray evidence and 10 patients presented electrocardiographic evidence of right ventricular hypertrophy. Eight of the 14 patients with X-ray evidence also presented electrocardiographic evidence of right ventricular hypertrophy. On the other hand, only 8 of the patients with electrocardiographic evidence of right ventricle hypertrophy had X-ray evidence of this condition.

Circulation times, venous pressures, and vital capacities were performed as described previously. Circulation times were increased in 16 of 19 patients,

venous pressures were elevated in 12 of 19 patients; and vital capacities were decreased in 15 of 15 patients.

Cyanosis was present in 18, while clubbing of fingers was present in only 9 patients.

The 21 patients were followed from the time of onset of congestive failure until the present. This time averaged 28.1 months. Six patients were followed less than 12 months and 4 were followed 48 months or more. Eight, 10, and 6 patients were followed 36, 24 and 12 months or more, respectively.

Four patients died. They expired 48, 3, 2 months and 1 month after the onset of congestive failure. The first two patients died with congestive failure, the third with carcinoma of the liver, and the fourth with emphysema as the cause of death.

This series of 21 patients with cor pulmonale with failure is not large enough to be statistically significant, but at least one observation bears emphasis. The fact that the patients have been followed for an average of 28.1 months following the onset of congestive heart failure, and that several have been followed for over three years, serves to emphasize that these patients are not as hopeless as is generally thought¹². Instead, with intensive therapy directed towards the pulmonary problem as well as the circulatory problem, patients with cor pulmonale with failure may be expected to live for several years.

SUMMARY

The predisposing factors, and the pathological physiology of cor pulmonale have been discussed. Certain studies have been outlined which are of importance in establishing a diagnosis as well as in following the effects of treatment. The management of cor pulmonale with failure has been outlined, and pertinent data on 21 patients who have been followed for an average of 28.1 months since the onset of congestive failure has been presented, thus emphasizing the fact that the prognosis is not as hopeless as has been previously thought.

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CLINICOPATHOLOGICAL REPORTS

From the Case Records of the Medical College of Virginia
and the University of Virginia Hospitals.

HARRY WALKER, M.D., *Editor*

WILLIAM KAY, M.D., *Associate Editor*

CLINICOPATHOLOGICAL REPORT CASE No. 86. A 51 year old white male entered the Medical College Hospital because of progressive weakness and weight loss. He had stopped work as a boilermaker approximately six months earlier because of gradually increasing weakness and loss of appetite. About six weeks before admission he began to notice increasing swelling of both legs and shortly thereafter also noted that his urine was dark-colored and that his stools were black. Weakness became so severe that he was forced to go to bed about two weeks before admission. During this time he had lost from 30-40 lbs. He denied having any nausea, vomiting, pain, change in bowel habits, or cough. Chest x-rays three weeks before admission showed some infiltration in the right 2nd interspace and left 4th and 5th interspaces which had improved on a subsequent film taken approximately one week before admission.

The patient had been a fairly heavy drinker prior to the onset of his illness. His mother had died at age 30 with pulmonary tuberculosis. The past and family histories were otherwise non-contributory.

Physical Examination: Temperature 98. Pulse 76. Respiration 20. Blood pressure 114/60. The patient was a gaunt, slightly jaundiced male, appearing much older than stated age. He was somewhat deaf, but mentally clear. The skin showed marked loss of turgor but, except for icterus, was otherwise negative. The teeth were absent, the tongue was dry and smooth, and there were mild excoriations around the mouth. The chest was moderately emphysematous, expanded poorly, and there were atelectatic rales in both lung bases. The heart was normal. The abdomen was scaphoid and non-tender. The liver was palpated three fingers breadth below the right costal margin, was firm and slightly tender. Liver dullness extended upward to the 4th intercostal space anteriorly. The prostate was slightly enlarged and somewhat nodular, but of normal consistency. Feces was dark green in color. There was 2-3+ edema of both legs with thrombotic varices noted in the left calf. The remainder of the physical examination was essentially negative.

Laboratory Data: Urine—amber, acid, 1.020, 1+ albumin, occasional WBC/hpf. RBC 3.5 million, hemoglobin 11.5 grams, WBC 29,200 with 90 polys., 3 eos., 4 lymphs., and 4 monos. The blood smear showed "macrocytic, normochromic RBC with some polychromasia—leukocytosis with increased hypersegmented forms, a few band forms, occasional myelocyte and promyelocyte with eosins increased and toxic granulation present". NPN 44 mgm. %, fast-ing blood sugar 139 mgms.%. Prothrombin concentration 43%. Serum bilirubin 0.9 direct, total 1.4 mgm. %. Urine urobilinogen was moderately increased and "largely of the levorotatory type". Urine was faintly positive for bile. Cephalin flocculation 3+. Cholesterol 195, esters 94. Total protein 6.6, albumin 2.0, globulin 4.6. Serum acid phosphatase 3.6 B. U. Chest x-ray showed infiltration in the 2nd right and 4th left interspaces. G-I series was reported as showing a constant annular filling defect in the antrum of the stomach 1½ cm. in width and 6-7 cm. from the pylorus. The esophagus and duodenum were normal.

Three days after admission edema of the right leg increased markedly and the right great toe developed a purplish discoloration. At about the same time it was noted that there were purpuric areas over both legs and forearms.

The patient became steadily worse—became confused, incontinent, progressively weaker and oral feedings were impossible. His temperature varied from 97 to 99.8, his pulse from 80-120. The prothrombin concentration remained around 40% in spite of repeated large doses of Vitamin K parenterally. Gastric aspiration revealed free acid and one gastric washing was reported as showing acid fast organisms on direct smear. Subsequent specimens did not reveal acid fast organisms and studies for fungi were negative. Repeated stool specimens were negative for blood and were grossly described as dark brown in color. The NPN rose to 99, the WBC to 40,000 and the patient expired thirteen days after admission. An autopsy was performed.

DISCUSSION BY DR. J. POWELL WILLIAMS*

The first thing that is missing from this protocol, which I always dislike, is an opportunity to know something about the personality and character of the patient with whom we have to deal. That's true not only of our protocol, but of most protocols for CPC's. They deal with the physical rather than the emotional side, a kind of a study of death, whereas in the practice of medicine, this information should form the foundation of any examination. We do know a little bit about this man. We know that his mother died of tuberculosis at the age of 30, and since women in this part of the world don't begin their families until they are 18 or 20, this boy must have been about 10 or 12, if he was the oldest child, younger than this if he were one of the younger ones. In other words, he was raised by a sick mother. In spite of that, if he got tuberculosis at all, it was of the subclinical variety because the past history showed no serious illnesses. There are a few other scraps of information of this type. We know that the man is a boilermaker and that may be of some importance. Boilermakers are proverbially rough, tough he-men who chew tobacco, shoot craps, drink and get drunk, and are hell with the ladies. This is probably the reason that Perdue uses the pseudonym "Boilermakers" for their football team. This man apparently has worked as a boilermaker for quite a while because he is deaf. Deafness is an occupational hazard of living in the turmoil in which these people must exist. That's about all we know about our man. We have to accept him as a pretty solid citizen, a man who feels that sickness is something beneath his dignity, and who would stay on his feet until the last minute. From this we might conclude something about the length of his illness. We know perfectly well that it didn't start six months previously when he quit work. We know that this type of person must have been sick for a good long while, a matter of months probably, and that his total illness was probably a period of a year and may even have exceeded that.

In addition to the duration of illness about which I have already spoken, we know that the onset was very insidious, progression being almost imperceptible with absolutely no evidence of sepsis and no focalizing signs or symptoms. There were only anorexia,

progressive weakness, and loss of weight. It is perfectly possible that this man, this character that we have described, ignores such symptoms as gaseous eructations. He probably had had this many times after beer bouts and didn't pay too much attention to it. He may not have been the sensitive individual who makes a fuss about a little "pain in his stomach", but anyway, following the protocol we get a perfect blank all the way through in so far as symptomatology is concerned. We know little or nothing about the interval between quitting work and entering the hospital save that three weeks before admission, he is said to have had dark urine and black stools. If we accept this, it leads directly to an upper G.I. lesion or esophageal varices, but here we begin to get material from the protocol that we really have to cast doubt on. This man, after a year's illness to the point of cachexia, came in with a hemoglobin of 11.5 grams, and had numerous stools examined in the hospital all of which were negative for blood and were recorded as being dark green or dark brown in color. I think that patients are very liable to make mistakes in this observation. If you ask pointedly, "Were your stools black?", and the stools were actually dark green, most patients are likely to answer "yes". In this case, I am inclined to throw it out. We know this though positively, when he finally got to the hospital the complaints that he started with had not changed during a year of progressive illness including the last 13 days of his life—anorexia, weakness and loss of weight, and that's all. Now since we see this man for only the last 13 days of his life, and since you are all fully aware of the fact that during such a terminal period in a cachectic individual, anything can happen—intercurrent infection is the rule rather than the exception and tumors, if present, can appear in places distant from the original site—I think that what we're going to have to do at the start is to review very rapidly the various groups of diseases that might give such nondescript symptomatology as this man presents.

Functional Disorders

I think that we ought to start off with the functional disorders because there are many of them that might present such a picture. The psychotic states, either ordinary depressions or the paranoid type who have delusions about poisoning or the involutional melancholias which are like the depressions, a lack

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of appetite and a refusal to eat are common to them all. These people, as you well know, frequently have to be tube fed for years and years to permit survival. If this man had stayed at home and because of a psychosis simply refused to eat, he would certainly have progressed to a state of asymptomatic starvation. There is another illness which should be mentioned which is more of a personality disorder than a frank psychosis and that is anorexia nervosa in which patients literally attempt to starve themselves to death. We saw one get away with it in our hospital last year. Sometimes they vomit openly and deliberately, but in many instances they eat well and then vomit surreptitiously. I recall also that Dr. St. George Tucker had a boy on his ward who was trying to escape the occupation of steeple jack, which was the one his father had followed all his life and had selected for him. His first effort to escape was to develop falling-out spells. His next effort was suggested by a doctor who told him he had hypoglycemia, which we couldn't confirm, and that he must eat between meals. When we first saw him he was consuming more than 6000 calories a day and losing weight without fever, with a BMR of -20% and entirely asymptomatic. We knew that there had to be a trick in this, but it took several admissions over a period of a year to prove it by assigning attendants to watch him carefully every minute of the day. During this interval he had lost 20 pounds and was on his way to the starvation which the other patient actually died of. A most meticulous autopsy was done on the one that came to death and not one single organic lesion was found. This group of functional disorders we will have to by-pass for lack of any positive evidence in the protocol.

Endocrine Disorders

Of the endocrine disorders that might lead to progressive cachexia, Simmonds' disease or pituitary cachexia is the first that one would think about. That, however, usually occurs in postpartum women and is usually the result of occlusion of the blood supply to the pituitary gland which causes panhypopituitarism. This patient, of course, presents none of the features of polyglandular deficiency. Another disease that may creep up slowly and relatively asymptotically is diabetes mellitus with progressive loss of weight to the point of emaciation, but usually the patient has polyphagia, polydipsia, and polyuria which this man does not have. He should also have had sugar in

the urine and acetonuria in the terminal state, so I think we may discard that. Finally, because he has an increase in his absolute eosinophil count and cachexia, we might think casually of adrenal cortical hypofunction, but we can't consider this seriously because he has nothing else that goes with it. His death was certainly not the hyperpyrexial, paroxysmal affair that we see in Addisonian crisis.

Degenerative Diseases

Considering the degenerative diseases, the conditions that are the greatest killers that we have in these days and times, there is no real evidence that he has any significant degeneration. You do find when you look at his chest film, that the aortic knob is prominent and probably there is some calcification within the wall. We also find that there is a $1+$ albumin in his urine, but the specific gravity is 1.020. The heart on the x-ray film is small rather than large, and it is normal to physical examination. There is no evidence of encephalopathy. These are the usual places we look for evidences of degeneration and we find little in this patient. Therefore, we do not believe that the aging process plays any significant part in this man's death.

Collagen Diseases

The collagen diseases I mention because Dr. Porter has so frequently stressed that leukocytosis with eosinophilia should be a red flag to call this group to your attention. The only one of the collagen diseases worth mentioning here, of course, is polyarteritis. This man does have vascular disease, thrombotic disease of the veins of the leg, he has a leukocytosis with a moderate eosinophilia, and he has progressive loss of weight to the point of cachexia. As opposed to entertaining this diagnosis seriously, he has had no fever during any part of his illness, and he has had no neurological involvement which is almost a constant accompaniment of polyarteritis, so I think we will just drop this from consideration and go on. There is one other condition that might be classed with the collagen diseases, namely, Whipple's disease. This lipodystrophy of the gastrointestinal tract is a rare disease but might imitate the condition under study. Without dramatic symptomatology, they usually have diarrhea with fatty stools, but actually a goodly percentage of them do not have diarrhea at all, and may even have constipation. They are unable to absorb fats which are deposited in the intestinal lymph nodes blocking normal drainage.

Clinically patients go progressively downhill and die in cachexia with little complaint, and for some reason they not infrequently die rather suddenly with no demonstrable precipitating cause. Our patient has none of the other things that go with this diagnosis though. He has no history of arthritic symptoms which may be obtained in the majority of these patients, there is no sign of inflammation of the serous membranes which goes along with this disease, and there are no heart murmurs to suggest a verrucous endocarditis which usually accompanies it, so we will discard it as a serious possibility.

Infectious Diseases

In considering the infectious diseases, we are faced right off the bat with a situation that immediately arouses suspicion. We have a ready-made diagnosis handed to us by Dr. Kay on a silver platter. Here's the history of a childhood exposure to tuberculosis in the susceptible years, because as you all know, the mother prepares all the food and usually supplies most of the affection in the family. It's almost impossible to conceive of this boy growing up without being infected by the mother who had so much tuberculosis that she died of it when the patient was a little boy. We have the insidious onset of his illness which is characteristic of tuberculosis, we have the marked loss of weight, and everything in the clinical picture fits tuberculosis even down to the point of finding the acid-fast organisms in the gastric washings, except for two things it would be most unusual for a patient to go on to death from pulmonary tuberculosis without some of the signs and symptoms of sepsis, such as p.m. temperature, night sweats, chilliness, etc., and there are neither symptoms nor signs of pulmonary disease such as cough or sputum. There is nothing in this whole history to indicate that the patient ever had any fever. As a matter of fact, I called Dr. Kay because I noticed in the last paragraph of the protocol that after the patient had gotten to the point where he had to be fed by vein, when he couldn't be fed by mouth, it is recorded that temperatures ranged from 97 to 99.8, and I wanted to know whether I was right in supposing that these were rectal temperatures. He reviewed the period of hospitalization and reported that there were only three times when his temperature went above 99. The rest of the time his temperature was perfectly normal including the last four days of his life. There was another consideration

which forced me to take the diagnosis of tuberculosis seriously. Could this be the disseminated type with involvement of the liver? Twice during the past year we have obtained typical tuberculomatous tissue by needle biopsy of the liver. In one case there was arrested pulmonary disease of longstanding with hepatomegaly and sepsis. In the other there was hepatomegaly and sepsis without evidence of pulmonary disease. The former of these is improving on streptomycin and PAS, but the latter was autopsied and showed diffuse involvement of all organs by tuberculous granulomas. In December in New Orleans I heard the Tulane staff present three cases of sepsis, hepatomegaly, and impaired liver function who showed tuberculous involvement of the liver on needle biopsy but no evidence of pulmonary involvement. Two of their cases had showed marked improvement under treatment with streptomycin and PAS and the third had left the hospital against advice to return later in a terminal state with miliary involvement and meningitis. So if tuberculosis is an acceptable diagnosis, it might also account for his hepatic symptoms and signs, but it must be remembered that in each of the cited cases, sepsis was an integral part of the clinical picture and to reiterate again, in our case it is conspicuous by its absence. Now finally, let's take a look at the chest films which cover a period of about three weeks. In the first film the lesion in the right upper lung field might be tuberculous, but its pyramidal outline with its base toward the periphery looks suspiciously like an infarct and we have in the veins of the lower extremities a perfectly adequate source of embolization. It should also be remembered that infarction may be entirely asymptomatic, without the chest pain, cough, hemoptysis and shock which may be present with large emboli. The lesion at the left base, although less characteristic of tuberculosis or infarction, might be either, but we might reasonably suspect that both are of the same nature. Now when we examine the two later films, we see rather marked resolution in both areas which is compatible with infarction but is not reasonably compatible with pulmonary tuberculosis in the terminal period. In studying these films, I want to call to your attention a very significant finding which is not mentioned in the protocol. If you will notice the lower border of the distal end of the left first rib, you will see that it presents a moth-eaten ap-

pearance in the first film, further destruction in the second, and finally a large rather clean-cut area of bone destruction 2 to 3 cm. long and 1 to 1½ cm. at its broadest point. This is the osteoclastic type of bone destruction without any evidence of bone production. This is not the picture of osteomyelitis either tuberculous or otherwise, but rather that expected with certain types of malignancy to be discussed later. To sum up, I am going to exclude tuberculosis as the primary illness, in spite of the very excellent evidence presented for the following reasons: (1) The finding of an acid-fast organism by direct smear of gastric washings is such unreliable information that we no longer utilize this examination. The percentage of false positives is so high that we rely only on cultures. There is a bacillus which is commonly found in butter which is acid-fast and even the ubiquitous hay bacillus may lead to such mistakes. No cardia, one of the pathogenic *Actinomyces* is also acid-fast and fragments of its mycelia might be mistaken for *B. tuberculosis*. (2) The study of the x-ray films is not suggestive of tuberculosis and does indicate malignancy at some point in the body. (3) Finally, it is inconceivable that our patient has had tuberculosis, either of the disseminated or the pulmonary type, over this long period of time without sepsis, or that he could be dying of this disease while his pulmonary lesions show rapid and definite healing. While it is entirely possible that an active focus of tuberculosis may be found at autopsy, I would think of this as incidental and terminal and not as the primary disease.

THE LIVER

Next I think we should take up the liver not as a focus of intercurrent disease, but as a possible primary entity. It is so obviously a site of disease in this patient. The liver dullness is said to start at the fourth rib and extend three fingerbreadths below the costal margin, which is a good thick liver probably in the neighborhood of 3000 grams. Here again we are presented with a ready-made diagnosis. Our patient is said to be a heavy drinker who gets sick insidiously without sepsis and who finally comes to a terminal cachectic state with a markedly enlarged liver. Superficially this is a pretty good history of cirrhosis, but there are some things that we must take into account here. This heavy drinker I think of as a typical boilermaker, who probably rode

through his hangovers without too much difficulty and who was also a heavy eater—he had to be to survive at a tough, hard, physical job. The people who drink a lot and eat a lot rarely get into serious difficulties with the liver. It is much more frequently the ones who start eating whisky instead of food who get into trouble. So while it's possible that this man may have been a heavy drinker, it seems probable that he was also a Gargantuan eater and by this means, protected his liver from serious damage from alcohol. The suggestive history of G. I. hemorrhage—that is the black stools—we have already mentioned and excluded, but there are other negative findings of real importance in deciding whether this liver disease is Laennec's cirrhosis and of assessing its true importance in his total illness. (1) He had no splenic enlargement and he is terminal, within the last 14 days of his life. (2) There are no spider angiomas and no liver palms. (3) There is no evidence of collateral circulation on the abdomen or chest. (4) There is no ascites and the edema of the lower extremities is adequately accounted for both by his thrombotic varices and by his low serum protein. (5) X-ray shows no esophageal varices. In the absence of all these things which go with portal hypertension, I cannot take seriously the possibility that this man is dying of uncomplicated portal cirrhosis. If he has portal cirrhosis, it's not of significant severity and it's not what is killing him, so we still have to go on with our search. There are other kinds of cirrhosis, one Dr. Hennigar hooked me on last year—the so-called postnecrotic cirrhosis. We can say very little about that except that in the history we have here, there is no evidence anywhere of an acute necrotic episode which this so-called postnecrotic cirrhosis should follow. The slow chronic hepatitis which may be subclinical and may follow a subclinical viral infection, ends up with a perfectly typical picture of Laennec's cirrhosis just as most of the postnecrotic type do, so that I think we can rule out and cast aside both of these simultaneously. Let's approach it from another angle now. What's the commonest cause of death in cirrhosis? It is intercurrent infection with focal necrosis of the remaining normal liver tissue and cholemia. That accounts for about 35 per cent of the deaths. About 25 per cent of them die of hemorrhage and around 20 to 25 per cent of them die of primary cholemia without nec-

essarily having the focal necrosis. The cirrhotic process simply destroys more liver tissue than coincidental reparative processes can replace and death ensues. The death described here doesn't conform to any of these mechanisms.

Now let's attack it from the standpoint of the degree of functional disability. Does the hepatogram give evidence of terminal liver disease? The most significant thing is the serum protein. There is an albumin fraction of only two grams which is a very decided reduction, and along with it there is elevation of the globulin. That is very characteristic of severe liver disease. Since shifts in the proteins don't take place rapidly, it would tend to indicate a rather prolonged impairment of liver function as well as a reasonable degree of severity unless we take into account one other thing. This man has been starving for a year to the point of cachexia. We know that the serum protein in the true starvation state may be low from an inadequate intake of materials with which to build albumin, and further, that starvation per se will lower both the liver's efficiency and its ability to maintain its homeostasis, hence starvation may be a large factor in producing this clinical picture. The cholesterol was of reasonably normal value though the esters are somewhat below the normal. The cephalin flocculation was reported as 3+. I think we should remember in evaluating the cephalin flocculation that it is not a specific test. We found overseas when we were doing them by the hundreds and thousands, that the cephalin flocculation was positive in many infectious conditions and the incidence was particularly high in cases of atypical pneumonia. In addition, we also found that the cephalin flocculation was a very very sensitive test. To give you an example, we found that people with chronic hepatomegaly almost invariably had a normal cephalin flocculation before peritoneoscopy and biopsy and a 4+ flocculation the day following. So it takes a very small amount of liver damage to make the test become positive and it will be positive for things other than liver disease. At any rate, the 3+ is not what one might expect in a terminal liver case. The prothrombin time was 43%. This certainly is a moderate reduction. You all know that in treating your occlusive cardiovascular diseases, you usually force the prothrombin concentration down to about 25 per cent and hold it there. The thing that is more significant about the pro-

thrombin though is the fact that although vitamin K was given in perfectly adequate doses, this man's prothrombin time did not go up, which is pretty definite evidence of liver damage. The serum bilirubin is rather interesting. The elevation is very slight. I don't know what you take as normal down here, but we usually accepted as normal a reading as high as 1 mg. per 100 cc. In this patient it is 1.4 mg. In other words, there is a slight elevation. Of this total 0.9 mg. is the direct reacting or one minute bilirubin which means that it has passed through functioning liver cells, which were able to convert it to the direct reacting sodium bilirubinate. Also, we note that the urobilinogen is reported as moderately increased. The source of urobilinogen is bilirubin so that at least there was enough functioning liver tissue to put more than the average normal amount of bilirubin from the blood stream into the bowel. The macrocytic normochromic anemia fits in perfectly well, the slightly elevated blood sugar of 139 mg.% fasting might be thought to be due to liver damage, but to sum up, this clinical picture is certainly not that of terminal liver disease. It is rather the picture of mild intrahepatic obstruction probably from some infiltrative disease or fibrosis and we're still going to have to go ahead and try to find out what it is that's keeping this liver from doing its work normally. As you all know, it takes only about 20 per cent of functioning tissue to do the work of the liver, but again, this is not the picture of terminal liver disease. This man is not dying of liver damage.

Malignancy

This brings us to the group of diseases I have saved for last. What group of diseases are by far the most likely to cause the clinical picture here presented from start to termination? Beginning insidiously in a robust man of 50 with almost imperceptible progression over a period of a year or more and characterized only by anorexia, weakness and weight loss with a complete absence of septic symptoms and no focalizing signs until the terminal state? The answer is only too obvious, malignancy. Here again we are offered a wide choice of sites for the primary lesion. We have the prostate, the stomach and the lung, and still others on the x-ray films but not mentioned in the protocol. Let's look at the x-ray films of the gastrointestinal tract.

DR. MANDEVILLE*: As far as I am concerned, I can see some mucosal relief where there is a somewhat pinched-off area in the stomach, but I would not favor this as carcinoma or as being intrinsic in the stomach. This man was of heavy build and heavily built people do have their stomachs more anteriorly than slim people, although he is supposed to have had a scaphoid abdomen. He had lost some forty pounds of weight, however, to account for this scaphoid abdomen, but there can very well be some anterior displacement of this stomach by a pancreas or by nodes, there could be an aberrant pancreas causing this annular defect, there could be pancreatic tissue in the stomach wall which would not ruin the mucosal relief. Retroperitoneal malignancy certainly cannot be excluded by these x-ray films. I'm not in favor of an intrinsic carcinoma, however. Dr. Williams has some films here of what he considers to be a normal stomach showing that there is no anterior displacement on the right and left lateral views of this stomach which he wants shown for comparison with the lateral views of the stomach seen in this case.

DR. WILLIAMS: I'd like to correct Dr. Mandeville. This isn't my opinion, it is my x-ray adviser's opinion. I went to him and asked him for a normal lateral view of the stomach and this is what I got to compare with the films on this patient. Now, as Dr. Mandeville has said, his man has lost 40 pounds of weight or more and is described as having a scaphoid nontender abdomen. How in the world then can his stomach defy gravity and sit out that far away from the vertebral column unless there is something behind it pushing it out. This "annular constriction" looks more to me like the pylorus and I believe it is the type of annular constriction that you and I have and I hope we'll keep. So we'll just discard the stomach from any consideration right now in spite of the protocol. I'm going to accept the premise that this man has a mass, a retroperitoneal mass, which had displaced his stomach anteriorly, which is not recorded in the protocol, and I want you to remember the possible metastatic lesion in the first rib, which is also not in the protocol.

Malignant Disease

In discussing malignant disease, I think we'll have to do a thorough job just as we tried to do in the other conditions considered but will mention only

briefly a few things at the start such as leukemia because of the very high count though if you notice, the count from a qualitative standpoint shows that the shift is decidedly to the right with many hypersegmented forms. This is just the opposite of leukemia. Though leukemia may cause these lesions of the lungs and liver, we will discard it for lack of evidence. The one thing that we do get from the leukocyte count is the type of picture which may be compatible either with malignancy or with infection. The lymphoblastomatous diseases were considered for a while as a possible explanation for the lesion in the stomach until I convinced myself that this was almost certainly a broad pyloric ring with perfectly normal mucosal pattern. I was thinking of an intramural lesion which did not involve the mucous membrane because you can see the mucous membrane perfectly smoothly over that gap. As a matter of fact, it is so smooth that it might even suggest an atrophic gastritis more or less similar to the atrophic tongue that he has, which, along with the excoriation of his mouth, is, of course, an indication of avitaminosis, a part of his starvation. Hodgkin's disease can give a blood count of 29,000 with eosinophilia. However, he has no palpable peripheral nodes and the spleen is not enlarged. He does have a retroperitoneal mass. Therefore, he might be looked upon as compatible with the Pel-Ebstein type of retroperitoneal Hodgkin's disease which does occur with no evidence of lymphoid hyperplasia elsewhere. But he has no fever—we come back to that over and over again—and fever is the most distinguishing characteristic of the Pel-Ebstein type. It may be intermittent at first, but when they come to die it usually becomes continuous. Incidentally, Hodgkin's disease will attack bones too, chiefly in an osteoclastic way just as is the case with the first rib I called to your attention, but because of the absence of fever, and the several other deficiencies noted, we will discard Hodgkin's disease.

Prostate

Of the carcinomas, let's start first with the least likely ones. We've already thrown the stomach out of serious consideration, in spite of the bait offered by the protocol. Let's now go back to the prostate because it was said to be of normal consistency but nodular and the acid phosphatase was 3.6 Bodansky units, which is fractionally above the book level of normal. Most G. U. people don't accept 3 units as

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normal. They don't get concerned about the acid phosphatase until values exceed 5 Bodansky units and I'm not enough of an authority to have an opinion of my own. I do know, however, that when carcinoma of the prostate metastasizes to bones, it usually goes to those of the pelvis and lower back. I know also that these metastases are almost invariably of the mixed type, that is, bone destruction along with bone regeneration which is not the kind of metastasis that we see in the first rib. Our G. U. colleagues, aided and abetted by our pathologists, tell us that about 60 per cent of men in this age group have carcinoma of the prostate. We clinicians know that this is not true in the strictest sense, and suspect a misuse of the term "carcinoma". By their criteria, our patient may have their kind of "carcinoma", but we as clinicians are certain that whether he does or not is of little consequence in his total illness and so, we'll drop the prostate from further consideration.

Primary Carcinoma of the Liver

Now for the liver. In primary carcinoma of the liver, metastases are the exception rather than the rule and when they do occur, involve chiefly the regional lymph nodes and the lungs. Distant metastases, such as the first rib in this case, are very rare. Those which reach the lungs usually do so by eroding directly into a portal radicle forming carcinomatous thrombi with later embolism. This could be a primary carcinoma of the liver, but I doubt it. I doubt it because in the first place, this is such a rare condition, and secondly, because I think we have a much better explanation.

The Lung and the Pancreas

The other two primary foci that deserve serious consideration are the lung and the pancreas. I doubt that the lesions we see in the chest x-ray are those of carcinoma because they show such definite evidence of regression over a period of three weeks, which would not be expected of carcinoma, either primary or secondary. However, we recently autopsied a man 59 years of age who came into the hospital with the complaint of back pain of three weeks' duration. A routine chest film showed an area of atelectasis at the base of the right lung along the right border of the heart. The patient grew worse so rapidly that we never got to bronchoscopic examination. Incidentally, he had marked leukocytosis and eosinophilia, varying from 19 per cent to 43 per cent,

much higher than in this case. When autopsied, his liver was found to be studded with metastatic nodules and the retroperitoneal nodes were extensively involved. The primary site was in the posterior branch of the right lower lobe bronchus, was about the size of the end of your finger, and could not be seen on the chest x-ray. So it is possible that this did come from the lung. In deciding between carcinoma of the lung and carcinoma of the pancreas, I thought that I had a differential point in that thrombosis of veins over the body and psychotic states were commonly found with pancreatic lesions. However, on November 24 the American Medical Journal contained a very good article on the subject of venous thromboses in malignancy, which I commend to your attention. The author reviews the literature to show that multiple thromboses may occur with malignancy in any organ and cites four of his own cases of carcinoma of the lung in which the initial complaint was of multiple thromboses, so my differential point was gone. I thought I had another differential point in that the only cases of metastases to the bones from pancreatic tumors that I could recall were of the osteoblastic variety, that is, with a lot of bone regeneration along with destruction. I finally found a book written in 1951 on tumors of the pancreas by Dr. Maxwell H. Popple of Mt. Sinai Hospital in New York, which stated that 6.3 per cent of pancreatic carcinomas metastasize to bone and that the metastases could be either osteoblastic or osteoclastic. So again my differential point disappears and I find myself thrown right back on the law of probability and chance. We do know that the most frequent cause of the clinical picture we see here is by long odds carcinoma of the pancreas, when lesions of the rest of the gastrointestinal tract have been excluded. A small bronchogenic carcinoma could give the same picture as in the case cited, but on the basis of statistics alone, the pancreas is much the best bet. The clinical picture is typical of involvement of the body and tail, and in all cases of carcinoma involving the liver, where the stomach is ruled out as a source, as well as the large bowel, the pancreas is the best bet nine times out of ten.

Therefore, I am going to give as my first choice carcinoma of the pancreas involving chiefly the body and tail, since there is little or no evidence of common duct obstruction, with metastasis to the left first rib, to the retroperitoneal nodes, and with multiple

metastases to the liver. There may be also some so-called carcinomatous cirrhosis in the liver, that is, the reaction to a foreign body. We know also that he has hypertrophic arthritis and a moderate degree of arteriosclerosis. He may also have moderate nephrosclerosis to account for his 1+ albumin. The lung lesions are probably infarcts though a terminal tuberculosis would not surprise me.

DR. JAMES BURKE*: I liked Dr. Williams' discussion very much. My impression was that the patient had carcinoma of the pancreas and I thought at the time that it was unusual that he had no pain. Pain, as you know, is present in about 90% of cases of carcinoma of the pancreas. There was no history of pain from this man though it is possible that it was because of his terminal condition that we were unable to elicit the history of pain. I am not sure.

HOSPITAL DIAGNOSIS: Carcinoma of Pancreas.

DR. WILLIAMS' DIAGNOSIS: Carcinoma of body and tail of pancreas with metastasis to the left first rib, retroperitoneal nodes, and liver.

PATHOLOGICAL REPORT: DR. W. GLEN REED†

The body for autopsy was that of a poorly nourished white male, appearing a little older than sixty years. There was pitting edema of both legs to the thighs. The right great toe was dry and gangrenous.

The heart was not remarkable except for some coronary sclerosis. The aorta was the seat of marked atherosclerosis. Two abscesses, each five centimeters in diameter, were found in the right middle lobe and in the left lower lobe of the lung, respectively.

The abdominal cavity contained a few thin, fibrinous adhesions and about two hundred cubic centimeters of a clear, yellow fluid. Plaque-like tumor nodules were seen on the peritoneal surface of the diaphragm. The liver weighed two thousand, seven hundred grams and was studded by sharply delimited nodules of firm white tissue, ranging up to four centimeters in diameter. These frequently had necrotic or hemorrhagic centers. The biliary tract was patent, but a tumor plaque was present on the serosal surface of the gall bladder. At the upper pole of the spleen, a firm, pale, well defined infarct was found. The left kidney also showed a small infarction.

A shallow, hemorrhagic duodenal ulceration, seven

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tenths of a centimeter in diameter was found over the head of the pancreas. The body and a portion of the head of the pancreas were replaced by a firm, cream-colored mass of tissue, mottled with hemorrhage. The distal portion of the pancreas was scarred and atrophic.

Thrombi were found in many pancreatic vessels, in the splenic vein, portal vein, iliac veins, and femoral veins.

The prostate was small, firm, yellow-tan, and nodular.

Microscopically, the tissue of the head and body of the pancreas had been replaced by pleomorphic tumor cells. (Fig. 1) These cells were arranged

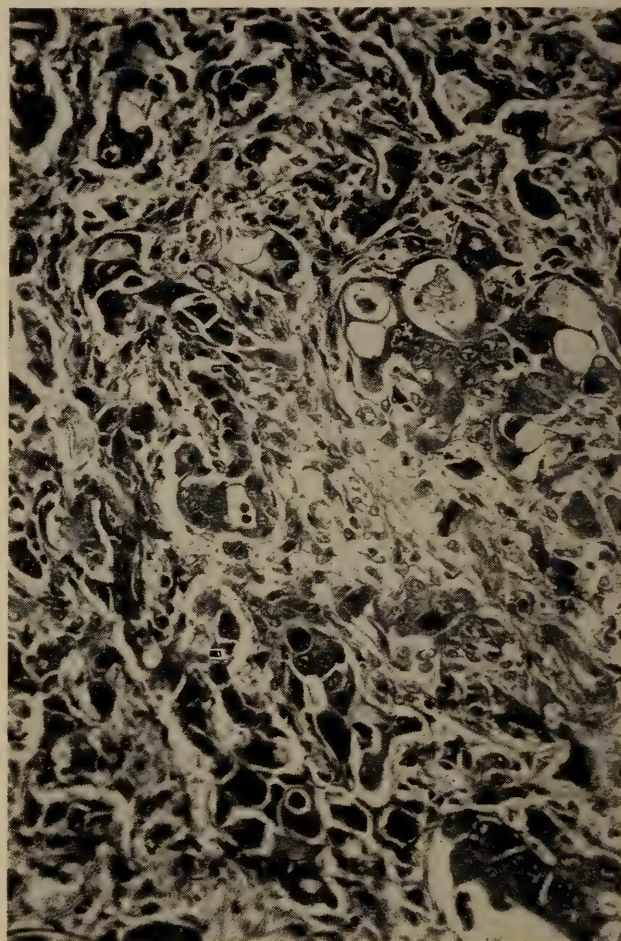


Fig. 1.—View of the carcinoma in the pancreas, showing the arrangement of strands and imperfect glandular structures well supported by stroma.

in small clumps and strands, or were seen lying singly. Occasional tiny, imperfect glandular formations were noted. The tumor was very well supported by fibrous stroma which widely separated many cellular groups. Some of the cells attained giant proportions.

The carcinoma had invaded the mucosa of the duodenum at the point of gross ulceration. There was a generalized thrombosis of the arteries and veins of the pancreas. Tumor plugs were noted in many peri-neural lymphatics. (Fig. 2)

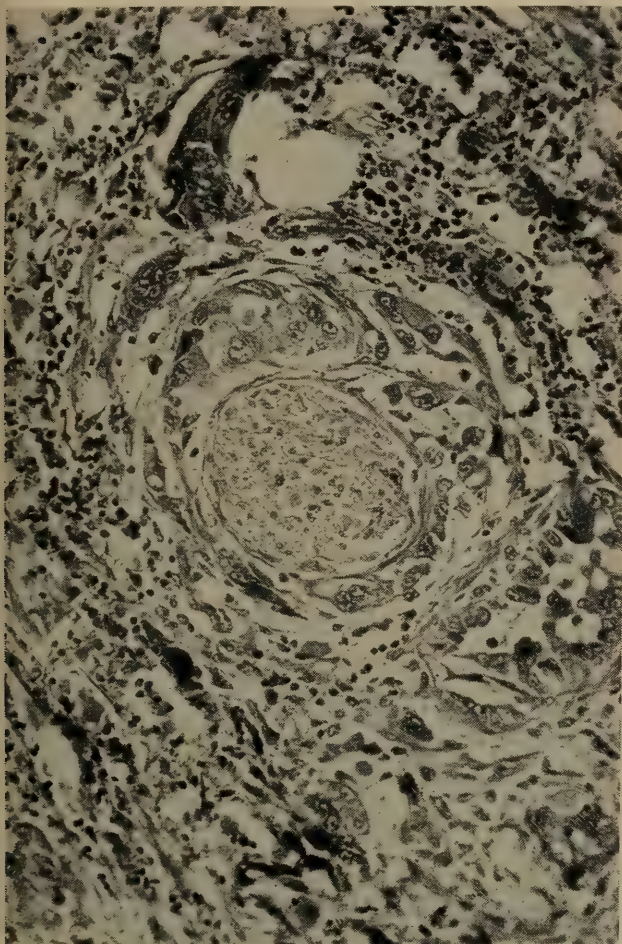


Fig. 2.—A peri-neural lymphatic, in the pancreas, filled with tumor cells.

Wide spread metastases were found, some in organs which showed nothing grossly. Numerous small carcinomatous foci were present in the lungs, lying in alveoli, blood vessels, (Fig. 3) and lymphatics. Near one of the abscesses, organized arterial thrombi were encountered, making it highly probable that the lesion originally was an infarct.

The majority of the metastatic nodules in the liver had undergone central necrosis. The spleen showed a typical necrotic infarcted area. The left kidney, in addition to its infarct, revealed a glomerulus containing pleomorphic cells from the pancreas. Several tumor giant cells were discovered in the tiny vessels of the brain.

The thrombi in the larger veins (iliac, femoral,

splenic) were dry, firm, and laminated. An incidental finding, in this case, was an adenocarcinoma of the prostate.

Several features are of interest in carcinoma of the body and tail of the pancreas. Its correct and

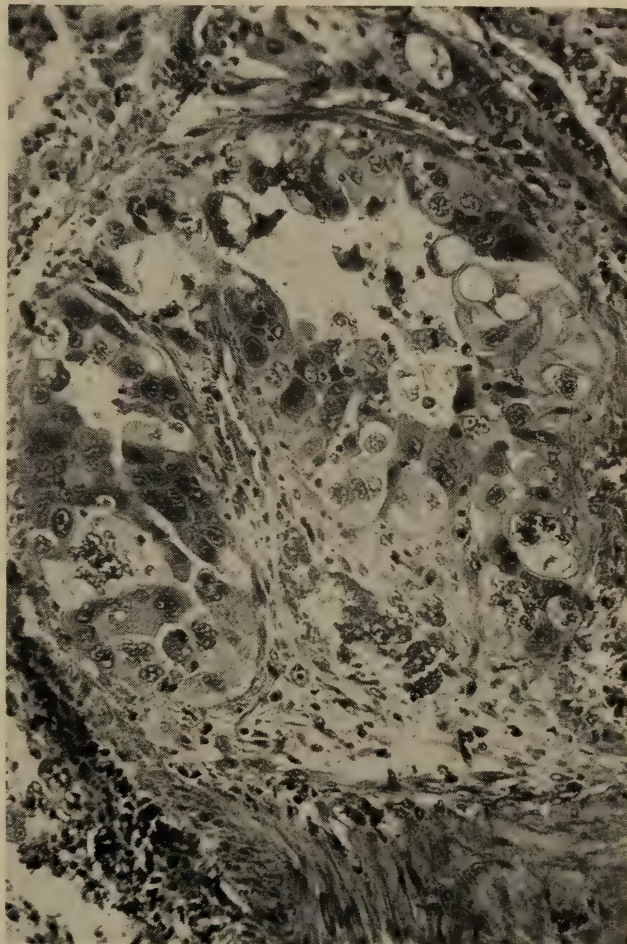


Fig. 3.—Tumor and partially organized thrombus, filling a blood vessel in the lung.

early diagnosis is difficult and rarely made, due to the vague and non-localizing signs and symptoms. It does not betray itself, early, by jaundice, as does carcinoma of the head of the pancreas. The most constant presenting symptom is pain in the abdomen, less frequently involving the lumbar region.

Carcinoma of the body and tail of the pancreas metastasizes more rapidly and widely than does carcinoma of the head. The head of the pancreas is bounded by the duodenum, transverse colon, and posterior abdominal wall, all relatively resistant to tumor invasion. On the other hand, the anterior and inferior surfaces of the body and tail are covered only by peritoneum. Thus, in its unobstructed local spread, it reaches many blood vessels and lymphatic channels

and disseminates widely. Furthermore, the body and tail are drained by the lienal vein, which is less easily blocked by tumor than are the numerous small veins of the head.

The association of multiple venous thrombi with carcinoma of the tail and body has been reported, but not satisfactorily explained. In the absence of other localizing signs, multiple venous thromboses may be an early clue to this diagnosis.

Finally, mental changes have been noted with the tumor, and a direct correlation has been postulated. However, the patients present such a diagnostic problem, and are so frequently labeled as psycho-neurotics, that they perhaps are entitled to a few mental aberrations.

Pathological diagnosis. 1. Adenocarcinoma of body of pancreas with generalized metastasis. 2. Multiple venous thrombosis. 3. Adenocarcinoma of prostate, incidental.

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Conferences for Chaplains for Mental Hospitals.

Several Veterans Administration hospitals are conducting conferences and clinics for the clergy to increase their understanding of the mentally ill. This program is part of the VA nation-wide policy to acquaint the public generally with the fact that the mentally ill can be rehabilitated as self-supporting citizens with good medical care and the understanding of their home communities.

The interest developed in building closer working relationships between members of the medical profession and the clergy has led to many of these VA conferences being put on an annual basis. In some cases, VA hospitals have had to conduct more than one conference in order to accommodate all of the clergy in the neighboring area who wanted to attend. Chaplains at the VA hospitals and members of the psychiatric staffs conduct the conferences and clinics.

Although the conferences and clinics are the responsibility of each hospital manager, they are encouraged by the VA Central Office in Washington, D. C.

Not all conferences and clinics are confined to the subject of the mentally ill. Some are conducted to improve hospital-community relations so as to increase understanding of mutual responsibilities in the care of the ill. The meetings are attended by the clergy of all faiths. In one case, they came from communities as far as 80 miles from the VA hospital conducting the conference.

The scope of the problem in increasing the general understanding of the mentally ill is reflected in the latest VA statistics. Of the 101,519 VA patients on March 18, 1952, more than half, or 51,940, were classified as neuropsychiatric patients. And of the 51,940 NP patients, 45,509, or nearly 90 per cent of the total, were classified as psychotics. The remaining 6,431 patients were classified as other psychiatric and neurological patients.

THE MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

Report of the Annual Public Relations Conference

The Annual Public Relations Conference of The Medical Society of Virginia was held in Richmond on April 10, 1952, at the John Marshall Hotel.

Woven around the theme, "Let's Step Up Our Public Relations", the program featured outstanding morning speakers, a luncheon address by Virginia's Lieutenant Governor, and two interesting panel discussions in the afternoon.

Dr. John T. T. Hundley, President of the Society, served as Conference Chairman and opened the meeting with a word of welcome to the group of seventy.

The Public Relations Program and Objectives of 1952 were outlined by Dr. James P. King, Radford, Chairman of the Public Relations Committee of The Medical Society of Virginia. He scored the seeming lack of "Public Relations Consciousness" among many members of the Society, and emphasized the need of a Public Relations Committee in every component society.

Dr. King stressed the part the Public Relations Committee has played in the promotion of the A.M.A. plaque, "To All My Patients". He commented that, "Doctors certainly need to tell the patient more about

their fees, and especially the big or unusual ones."

The next speaker was Leo Brown, Director of Public Relations of the A.M.A., who told the group that the "unethical or thoughtless act" of just one physician leaves its scars on the entire profession.

He called for night emergency call systems in every community, one of the best ways to answer the often heard complaint that a doctor was not available.

Mr. Brown believed that component societies should hold special meetings designed to revive the interest of old members and to fully acquaint new members with the problems of the day.

In concluding, he stated that we right now have the best medical service system in the world, but it must not be taken for granted. Rather, we must constantly seek to strengthen it.

Miss Charlotte Rickman, Raleigh, North Carolina, Consultant on Rural Health for The Medical Society of North Carolina, gave a brief history of rural health activities in North Carolina. At the present time there are thirty-eight rural health councils in the state, and they are all active.

Miss Rickman reported that no one county can set a pattern for others. Needs and problems vary, and people think differently. However, they all cite better



Conference Luncheon



(L to R) Dr. J. P. King, Public Relations Chairman; Mr. Leo E. Brown, AMA's Director of Public Relations; Dr. J. T. T. Hundley, Conference Chairman; Miss Charlotte Rickman, Rural Health Consultant, North Carolina; Dr. Harlan English, Rural Medical Service, Illinois, head morning session.

sanitation and a community house as standard needs.

It was brought out that in most instances, it takes time to get rural people together and some action started. However, once they become interested, they are hard workers and have a knack of getting things accomplished.

Climaxing the morning program was a talk by Dr. Harlan English, Danville, Illinois, dealing with "Money and Doctors' Fees". He pointed out that the cost of medical care has risen 48 per cent in the last fifteen years, while the overall cost of living has increased 72 per cent.

Dr. English recommended that physicians pay close attention to their accounts. It was suggested that a definite understanding be had with the patient about fees, billing times and procedures, etc. In this way, risk is almost completely removed if physicians will stick to the arrangements agreed upon.

It was the opinion of Dr. English that no physician should charge a person more than one month's income after taxes for any type of operation.

Luncheon was featured by an address by Lieutenant Governor Lewis Preston Collins, in which a

plea was made for more emphasis on "life's intangible values—morals, ethics, and a sense of legal responsibility."

He urged physicians "to get back to the basic influences exercised by the old country doctor", and declared that "by reason of his influence the country doctor was able to bring about a greater individual and social consciousness of the reality and the necessity of intangible values."

The first panel discussion of the afternoon session was on the subject, "Can We Improve Our Voluntary Health Plans?" The moderator was Dr. John O. Boyd, Jr., Roanoke, and the panel members were Dr. William R. Pretlow, Dr. Benjamin W. Rawles, Jr., and Dr. Ennion S. Williams.

Dr. Boyd reported that an attempt is being made by the Medical Service Committee of The Medical Society of Virginia to formulate a program by which the coverage now available could be improved. There is, he said, a great public demand for increased coverage and medical care.

It was the opinion of Dr. Rawles that while the medical profession should promote Blue Cross-Blue



(L to R) Dr. J. L. Hamner, Mr. Leo E. Brown, and Dr. J. T. T. Hundley chat with luncheon speaker Lieutenant Governor Lewis Preston Collins (second from right).

Shield, it should also give a helping hand to the policies of private indemnity companies. However, physicians should be sure patients are getting that for which they pay.

Several methods were suggested by Dr. Rawles for the promotion of voluntary health plans. The best promotion job can be done in the doctor's office with the physician explaining the policies to the patient. Of course, physicians should understand voluntary health insurance thoroughly in order that a proper selling job may be accomplished.

Dr. Pretlow pointed out that Blue Cross is still a very young organization, and actually still has much to learn.

He quoted statistics to show that many persons are using Blue Cross for purposes not essential, and unless this practice is ceased, Blue Cross can be priced out of the market. It was emphasized that physicians must strive to hold down nonessential hospital admissions.

The necessity of opposing socialistic trends in all fields of endeavor was stressed by Dr. Williams. He stated that compulsory health insurance is but one objective in the campaign to socialize America.

The concluding panel dealt with the "Public Relations For the Component Society", and was moderated by Dr. Marcellus Johnson, Jr., Roanoke. Panel

members were Dr. Fletcher J. Wright, Jr., Dr. Edward E. Haddock, and Dr. W. Callier Salley.

Dr. Johnson described the efforts of the Roanoke Academy of Medicine in getting its medical public relations program under way. He cited the need of having some younger men on public relations committees, in order that necessary training might be had. It was pointed out that these younger members will be of tremendous value to the medical profession as time goes on.

Deploring the fact that the medical profession has allowed an insurmountable wall to be built about it, Dr. Johnson explained that the profession is now being awakened by the blows which have been dealt from all sides. It is now more important than ever that each physician become a public relations committee of one.

Dr. Wright told how important it is that physicians take an active part in civic life. Registering and voting are "musts", and accepting civic responsibility is the duty of every doctor.

According to Dr. Salley, the medical profession must work closely with other reputable organizations and groups whose aims are similar to our own. Most of these organizations have indicated a desire to cooperate with the medical profession.

The need of a good Doctor-Press-Radio relation-



PR exhibit displayed at conference.

ship was pointed out by Dr. Haddock. Other states have achieved noteworthy results, and there is no reason why our component societies can't do the same.

In this connection, Dr. Haddock reported the efforts of the Public Relations Committee of the Richmond Academy of Medicine. Talks held with rep-

resentatives of the press and radio brought forth many interesting and helpful comments, and a better understanding now exists as a result.

ROBERT I. HOWARD, *Director, Public Relations, The Medical Society of Virginia.*

TEN WAYS WE CAN WORK INDIVIDUALLY FOR BETTER PUBLIC AND PROFESSIONAL RELATIONS

1. Be civic-minded and active in community affairs.
2. Schedule appointments we can meet on time.
3. Itemize our bills.
4. Explain to patient in understandable terms why an expensive drug is prescribed and what results may be expected.
5. Urge hospitals to minimize routine costs.
6. Invite patients to discuss our fees; display the AMA plaque "To All My Patients."
7. Encourage Voluntary Health Insurance Plans.
8. Pay special attention to reception room. Keep it neat and comfortable.
9. Supply sound PR literature to patients.
10. Urge office personnel to be PR minded.

OUR PUBLIC RELATIONS PROGRAM AND OBJECTIVES FOR 1952

JAMES P. KING, M.D.,
Chairman, Public Relations Committee,
The Medical Society of Virginia
Radford, Virginia

The wheels of our public relations program all but came to a standstill in 1951, following the untimely death of our beloved director, Henry S. Johnson. To get the program underway once more, it became necessary to appoint a successor to him, who assumed office at our annual meeting last fall; also to name several new members of the Public Relations Committee. Since then, a re-formulation of the program has been and still is underway. Several projects have been advanced and completed during this period and many others are under advisement. In carrying forward your public relations work, we have made extensive use of that well-prepared document, OBJECTIVES AND PROJECTS OF THE DEPARTMENT OF PUBLIC RELATIONS OF THE AMA, the author of which, Mr. Leo F. Brown, is one of our guests here today. His publication has guided us in the selection of things that we believed could be accomplished in our State. Many of you have copies of this outline and I urge you to study them thoroughly. In my opinion, if we were able to implement in its entirety a program such as Mr. Brown suggests, all over this country, we should probably find it unnecessary to meet here today.

In order to further our own education regarding this aspect of our profession and to broaden our perspective, Secretary Bob Howard and I traveled to Los Angeles last December to attend the AMA's annual Public Relations Conference, a well-planned and well-executed meeting, from which we received many valuable ideas for our work in Virginia. At that time we became acutely aware of the need to inform and interest more doctors in public relations work. As this awareness has grown we have been amazed to witness the lack of what may be called "P-R consciousness" among many members of our medical society. A number of these physicians are not only indifferent to, but are actually against, public relations programs because they believe them to be unnecessary. So it seems that we need first to stir up and maintain interest among our own colleagues.

To do this, we believe that a public relations committee should be formed in every component society in the State. Thus, during the past several months, the officers of each of these societies have been requested to see that such a committee is organized or reactivated. It follows that, once inaugurated, each committee should take an aggressive role in its society, presenting at least one public relations program every year, seeing that special societies are actively engaged in some public relations work, and keeping its members informed and properly oriented in all matters pertaining to the medical profession and its contacts with the public. Also, to help inform and interest the individual doctor, CURRENT CURRENTS is being sent out every six weeks. I believe that you will agree that this publication has shown much improvement in recent issues in the quality and appeal of the articles it contains.

It has been aptly said that good public relations begin and end in the doctor's office. In keeping with this view, your Public Relations Committee believes that practically all effective work in this field should be on a local level. Accordingly, our effort is being exerted most strongly in that direction. At all times, we wish to stress good doctor-patient relationship, as the following report of our activities will attest.

Here in Virginia we are getting our message over to the public through considerable use of the radio. We have recently completed a series of seven recorded broadcasts over Richmond's 50,000-watt station, WRVA. The series entitled, "Meet Your Doctor"; was designed to acquaint the public with medical problems and services in Virginia. Dr. Ennion Williams of Richmond has served as chairman of this committee. Eight well-qualified physicians, from various sections of the State, were chosen to participate in the programs. From all available information, the broadcasts have been very well received. One evidence that such has been the case has been the receipt of inquiries about them from the headquarters of the AMA and from one of the larger drug houses in the country. This series is available

for re-broadcast in other areas of the State; you should arrange with Secretary Howard for your local station to carry the programs.

Because the role of the medical secretary, office receptionist, or nurse in the doctor's office has received increasing recognition during the past year, your Committee has approved special bulletins intended for members of this group, who have so very much to do with the doctor's impression upon his public. A series of lectures on this aspect of public relations has been prepared and can be given to groups of medical assistants by personnel of our Richmond office.

Another important accomplishment of your committee has been the assembling and distribution of a kit of materials to all component societies describing services used throughout the country for taking care of night and emergency calls. As you know, instances have happened in at least two cities in Virginia that have brought down upon our heads the wrath of the press. Regardless of the merits of these incidents, the public's reaction has been somewhat unfavorable to the medical profession. We believe that this is a good place for preventive work; that all medical groups throughout the State should arrange for adequate handling of emergencies and should not permit isolated instances of mismanagement to overshadow the commendable service that physicians everywhere render emergency patients.

A concentrated effort has been made to promote the use of the AMA plaque, "To All My Patients". We have received reports from physicians who have used the plaque and they tell us that the simple invitation to discuss fees has often resulted in opening the conversation without embarrassment to either the patient or the doctor. Incidentally, I am told that we are well ahead of our neighboring states in promoting the sale of this plaque.

Your Public Relations Committee is currently interested in the betterment of doctor-press-radio relations. We believe that many of the unfavorable shadows cast upon the medical profession by the press and radio can be removed by a mutually helpful code of cooperation. This has been true in many states, and in a few cities in Virginia, where local committees have sought working arrangements with the press and radio. Dr. Haddock will have more to say about this subject later in the program. Perhaps many of you have "Calendar Suggestions for P-R

Committees" prepared by Bob Howard and colleagues and recently sent to all presidents and secretaries of component societies. This booklet explains, in greater detail than I can undertake, many of our projects and objectives.

More public relations material and information has been sent to physicians and member societies during the past six months than in any comparable period in the history of The Medical Society of Virginia. A real effort is being made to keep you members informed. We hope that ours will not be a one-way information track, but that we may have your candid views at frequent intervals.

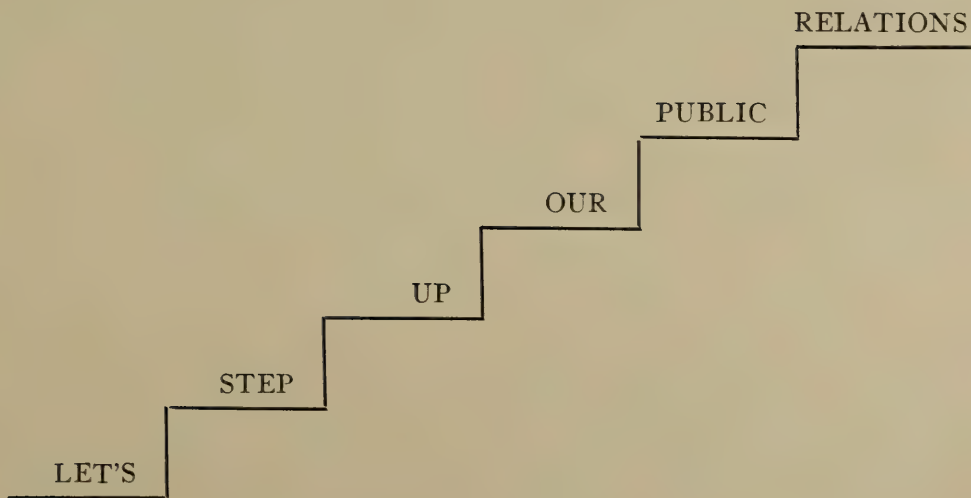
There are almost unlimited fields of endeavor for local committees and component societies who want to work for improvement of their relations with the public. The ten ways we can work individually, ways which are listed in your program today, are enough to keep us all busy for a long time. As we look over this list we realize that we need more physicians in public life: as members of city councils, as leaders of community drives, and as participants in various other worthwhile civic enterprises. We should remember that time is money to the patient, too. One of the speakers in Los Angeles talked on this subject and he began by observing complete silence for a full minute. The audience noticeably squirmed and when he did begin he said "It's irritating, isn't it? "Doctors certainly need to tell the patient more about their fees and especially the big or unusual ones. For many years, it has been the custom at the hospital of my affiliation that, before the patient is admitted, we explain the charges—all of them—and actually give his family an itemized sheet showing these expected charges. As a result, very few misunderstandings arise regarding fees and other charges. I believe this system could be followed with advantage by every physician, especially when the fees may be substantial, unusual or unexpected.

I have read and re-read the *Objectives and Projects of the AMA* to which I referred a few minutes ago and as I have done so each item has seemed the most important one. Chairmen of local public relations committees will profit by careful study and utilization of this master plan.

During the past few years the medical profession has frequently found itself in deep water, fighting socialized medicine with a back-to-the-wall spirit.

After some successes, such as occurred in the senatorial races of 1950, it appeared that we might once again settle down to the serious business of practicing medicine without the threat of governmental interference. Unfortunately, our leaders in government (Messrs. Truman, Ewing et al) have not seemed content to let us do so. We have repeatedly observed the attempt to enact into the law the so-called fringe bills; free hospital care of the aged, Federal Aid to Medical Education, and, most recently, the Emergency Maternal and Infant Care bills, all of which are parts of the scheme of the national planners to invade the field of the practice of medicine. Further, we have heard and read the public expressions of members of the present federal administration concerning compulsory medical taxation. Thus, we real-

ize more keenly than ever that our profession, which has unquestionably made American medicine the finest in the world, must find means of providing its benefits to *all* our people, irrespective of economic status; that until *we* do so, we are going to have the constant threat of governmental interference. We must remove the cause if we are to prevent the malady. As our new Health Commissioner said recently, "We must put a shingle on the roof rather than a bucket under the drip." Until this ideal of serving all our people can be accomplished, we need to use the keenest tools at our command to counteract the malignancy of socialized medicine. Among such tools, some of the most important are those to be found in good public relations programs throughout the Nation.



GETTING CLOSER

SEPTEMBER 28—OCTOBER 1

Those are the dates on which the Annual Meeting of The Medical Society of Virginia will be held. The place, of course, is Richmond, and headquarters will be the Hotel Jefferson.

If you haven't made your reservations, do so now, by writing any of the hotels listed below.

JEFFERSON* Headquarters Hotel .	FRANKLIN & JEFFERSON
JOHN MARSHALL	5TH & FRANKLIN
KING CARTER	8TH & BROAD
RALEIGH	9TH & BANK
RICHMOND	9TH & GRACE
WILLIAM BYRD	2501 WEST BROAD

* The House of Delegates of The Medical Society of Virginia has directed that officers and delegates of the Society shall be given the opportunity of securing reservations at the Headquarters Hotel. However, the Jefferson has guaranteed the Society a total of 250 rooms, and reservations for the general membership will be confirmed in the order in which requests are received.

MISCELLANEOUS

V.A.G.P. Scientific Assembly Highly Successful.

Meeting in Roanoke for their Second Annual Scientific Assembly, May 8-9, the Virginia Academy of General Practice chalked up another record for an eminently successful Scientific Session, largely attended by both General Practitioners and Specialists in other fields of medicine.

Comprising outstanding men in their several fields, the speakers, gathered from the teaching and hospital staffs of the two Virginia Medical Schools—the Medical College of Virginia in Richmond and the University of Virginia in Charlottesville—presented papers of unusual interest and of pertinent value to the physician in general practice, as well as to those in the more specialized fields. Practically every speaker illustrated his talk with lantern slides, which is always an effective means of emphasizing one's topic.

One hundred fifty M.D.'s registered for the two-day Assembly but a number of others were observed in attendance who had not registered. A total registration of 290 covered also the Technical Exhibitors, wives, and members of Academies of General Practice from neighboring States.

The Board of Directors held its Annual Meeting on Wednesday night, preceding the opening of the Assembly, at which a volume of important business was transacted. Having voted at its December, 1951, meeting henceforth to hold the Academy's Annual Business Meeting, with election of officers, directors, etc., during its Annual Scientific Assembly in May, this meeting took place on Thursday, May 8, at which time the officers and chairmen of committees made their annual reports and officers, directors, and delegates and alternates to the House of Delegates of the American Academy of General Practice were elected.

Chosen as President-Elect for the year 1953-54, was Dr. Brewster A. Hopkins of Stuart; Vice-President, Dr. Richard M. Reynolds of Norfolk; re-elected as Secretary and Treasurer, respectively, were Drs. W. Linwood Ball of Richmond and Clifton R. Titus of Bedford; Directors elected to represent the Second, Fifth and Eighth Congressional Districts, in which terms of office of Directors will expire in October, 1952, were: Drs. Harry M. Frieden

of Norfolk, John J. Neal of Danville and Charles W. Warren of Upperville. Dr. Mary Elizabeth Johnston of Tazewell was re-elected Delegate to the House of Delegates of the National Academy, with Dr. George P. Hand, Jr. of Norfolk as Alternate. Dr. W. Linwood Ball was elected General Chairman of the Annual Scientific Assembly for 1953 and directed to appoint his own Business Manager, the time and place of which meeting will be the second Thursday and Friday in May, at the Hotel Jefferson in Richmond.

The Woman's Auxiliary met at Luncheon on Friday, which was largely attended, a feature of which was an interesting demonstration on flower arrangement. A number of wives added their names to the steadily growing membership of the Auxiliary and the incumbent officers were re-elected to serve another year.

The Assembly was preceded on Wednesday, May 7, by an afternoon meeting of the Virginia Chapter of the American College of Chest Physicians. A most interesting program had been arranged, which was attended by a goodly number of the General Practitioners, who reported the papers presented outstanding in their interest and value.

The Board of Directors of the Academy unanimously voted to invite the Virginia Chapter of the American College of Chest Physicians, as well as the Diabetic Association, to schedule their annual program meetings to coincide with the Annual Scientific Assembly of the Virginia Academy of General Practice throughout the future and to integrate their programs with those of the Academy, if they so desire.

Highlight of the two-day Assembly was the social event which concluded the program—the Annual Banquet and Dance—which was preceded by a delightful cocktail party, given through the courtesy of Van Pelt and Brown, Inc. A brief but pertinent and much enjoyed and appreciated address by Dr. John T. T. Hundley, Jr., President of The Medical Society of Virginia, followed the Banquet, during which vocal and instrumental entertainment had been provided.

The guest speaker was Dr. Alfred P. Haake of Park Ridge, Illinois, economist, lecturer and consultant to the General Motors Corporation, through

whose courtesy he addressed the Academy. Dr. Haake's subject was "An Economic Diagnosis of America", which truly brought out the ills of our national economic set-up and program and pointed out the great need for a return to the integrated home life of our forefathers and to the religion which was a part of their daily life. Illustrating his remarks with many "homey" incidents which struck a responsive chord, he drove forcefully home the need for an awakening to the subversive elements in our home and national life and for a revival of the fundamental principles of home and community life, based upon Christian principles, and an abiding and steadfast faith and belief in the efficacy of God. His address left his hearers spellbound and with a feeling of having listened to profound truths, which, if followed, could produce a nearer approach to the "Utopia" which all human beings seek, whether consciously or unconsciously.

The dance, which followed shortly after the conclusion of Dr. Haake's address and which was interspersed with a good floor show, was a delightful climax to a most beneficial and enjoyable two days.

H.M.S.

Progress Report on Crippled Children's Services Coordinated by the Virginia Council on Health and Medical Care

One of the brightest spots on the Virginia health scene in recent years is the work being done in the field of crippled children. Here The Nemours Foundation requested that the Virginia Council on Health and Medical Care sponsor and coordinate the work with handicapped children so that The Foundation could extend their aid to Virginia. At The Foundation's request the Council held a Conference in September 1951 for the purpose of calling together all the various groups and individuals in the State which work with handicapped children to acquaint them with the services available at the present time. The following types of handicapping were discussed in detail: Speech and Hearing, Orthopedic Conditions, Cerebral Palsy, Epilepsy, and Rheumatic Fever and Cardiac Conditions. Over 100 different organizations, both State-wide and local, official and unofficial, participated. Numerous interested individuals came also. As a direct result of this first Conference The Nemours Foundation is putting \$45,000 into our State's program during 1952. The Council has

set up a Coordinating Committee on Crippled Children's Services to carry out conference recommendations and formulate a plan which will lead to greater team-work among the groups serving our handicapped children.

The Council is now proceeding to plan a second Conference. It will be devoted to Speech and Hearing which was one of the phases of handicapping considered at the general conference last year. The meeting will be held at the University of Virginia, Thursday and Friday, September 11th and 12th. All physicians in the State are invited and urged to attend. A preliminary program and other information can be secured by addressing inquiries to the Virginia Council on Health and Medical Care, 102 East Franklin Street, Richmond 19, Virginia.

The following are some of the groups which work with speech and hearing and which will be participating: Bureau of Crippled Children, State Health Department; Special Education and Vocational Rehabilitation, State Board of Education; Virginia Cerebral Palsy Association; Virginia Society for Crippled Children and Adults; Virginia School for the Deaf and the Blind; Virginia State School; Junior League School of Speech Correction, Richmond; Speech Clinic, University of Virginia; Hampton Roads School of Speech; Virginia Society of Otolaryngology.

We hope that our second Conference will afford an opportunity for physicians, official and voluntary health workers, and others, to learn about the facilities available and services offered to children with speech and hearing defects. With this information in mind or available in a directory, it is hoped that more children with these two handicaps can and will be referred to the agency, clinic, or center where adequate and proper treatment can be given. We also hope that as a result of the coming Conference plans can be worked out to improve the future care and treatment of children with speech and hearing defects, by having a better coordinated program for the State. The possible advantages of such a program will be many.

It is hoped that the physicians of the State will take advantage of the Conference on Speech and Hearing, and plan to attend.

EDGAR J. FISHER, JR., Director
Virginia Council on Health and Medical Care
Richmond, Virginia

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,

*Commissioner, Department of Mental Hygiene and Hospitals***Nursing Service in State Mental Hospitals***

The concept of care for the mentally ill in primitive civilization was based on the belief that mental disease was caused by evil spirits taking possession of the body of an individual in punishment for the sins committed by that individual.

Treatment of mental illness was directed towards driving out these demons and many brutal measures were employed for this purpose.

In the early Christian Era prayer and the laying on of hands by the priest were used to exorcise these demons and when this failed offensive language, punishment and torture were employed. In England in 1537 an institution used to receive "lunatics" was called "Bethlehem Asylum", which later became known as "Bedlam", and here attendants were allowed to charge an admission fee of a penny for the exhibition of mental patients.

In the seventeenth and eighteenth centuries we find voices raised against inhumane treatment of the insane and such persons as Philippe Pinel, William Tuke and Benjamin Rush successfully demonstrated that kindness and diversion could take the place of restraint and brutality.

American concepts of treatment for the insane were those that the colonists brought with them and followed the pattern of treating insane persons as prisoners. The teachings of Benjamin Rush, that occupational therapy could be employed in the care of the insane had a great influence on medical thought and practice.

Eastern State Hospital, Williamsburg, built in 1773, was the first hospital in America used exclusively for the care of the insane, and similar hospitals were erected in other states.

In 1843 Dorothea Lynde Dix, who had been visiting jails, workhouses, and places of detention for insane patients, found conditions so deplorable that she presented to Congress the results of her survey which resulted in the state's making appropriations for the building of suitable hospitals and passing laws to protect the insane.

The standard of care conformed to the belief that insane patients were dangerous to themselves and others, would always remain so, and should be locked away safely.

Later developments in the nineteenth century were the organization of training schools for nurses or attendants in mental hospitals and Miss Linda Richards, America's first trained nurse devoted many years to organizing nursing schools and teaching in mental hospitals.

The Mental Hygiene Society, organized in 1908 by Clifford Beers, a recovered mental patient; the books which have been published by patients who have recovered from mental illness; the impact on the public of the realization of the large numbers rejected by Selective Service because of emotional instability; the casualties resulting from mental and nervous disorders during the Second World War; and the overcrowding of our mental hospitals, have awakened the public to the fact that mental illness is a public health problem of major importance.

The recognition of this problem by Congress resulted in passage of the National Mental Health Act in 1946, which provided for development of a long range nation-wide program for improving the mental health of the nation. Because of the shortage of psychiatrists, nurses, social workers, psychologists and others, one of the first objectives of this program is the preparation of an adequate number of workers in the field of psychiatry.

What about the treatment of mentally ill patients in the hospitals which are financed by the state?

Exposé of conditions in some of these hospitals in recent years have shown many deplorable condition resulting from overcrowding, lack of adequate personnel and insufficient funds to provide minimum standards of care.

Recent study and research have shown that mentally ill patients cannot only lead more comfortable lives within the hospital but that the use of modern psychiatric treatment and techniques can result in the early return of many patients to the community as useful and productive citizens and indeed by instituting treatment before the patient reaches the

*This article prepared by Miss Annie A. Hall, R.N., Psychiatric Nursing Education Director, Department of Mental Hygiene and Hospitals, Commonwealth of Virginia.

stage of hospitalization he can be prevented for entering the hospital.

It would seem, therefore, that the treatment provided for mental patients should not be gauged by the number of available dollars but rather on the basis of what is needed to carry on a program of treatment directed towards recovery. Can we afford to do less when we consider the increased population within mental hospitals during the past twenty years?

What is the adequacy of the nursing service within our state mental hospitals?

The standards for psychiatric hospitals and clinics approved by the American Psychiatric Association, November, 1951, recommend:

- One registered nurse to five patients, and
- One attendant to four patients in the admission and intensive treatment service of the mental hospitals;
- One registered nurse to 40 patients, and
- One attendant to six patients in the continued treatment service;
- One registered nurse to 20 patients, and
- One attendant to four patients in the geriatric service;
- One registered nurse to five patients, and
- One attendant to five patients on the tuberculosis service;
- One registered nurse to five patients, and
- One attendant to five patients on the medical and surgical service.

While the ratios of nurses and attendants to patients may seem high at first glance, when considered in the view of a 40-hour and 5-day week they present a modest recommendation.

No public mental hospital has yet achieved these standards, Dr. Leo M. Bartemeir, president of the American Psychiatric Association, conceded. "But", he said, "if we really want to give mental patients active treatment and humane care—and who doesn't—then there is no excuse for pussyfooting about what is required to do the job." "After all", he said, "the public has long since demanded and taken for granted high standards in our general hospitals. Can we any longer deny our mentally ill the same consideration?"

Administrators in our mental hospitals have been greatly concerned over the inadequate number of well prepared personnel within the nursing services, to carry out an effective program of treatment and care of patients. Most of these hospitals have only a few graduate nurses, so that the care of the patient

has been almost entirely entrusted to the attendant and there are too few attendants. It would seem that since the attendant is so vitally related to the care of the patient, he, more than any other, is the one the patient sees; he is the one who, while others may be able to await the proper time to make a good approach, must see that the patient eats *now*, even when food is refused. He must see that acceptable standards of personal hygiene are maintained, and, in short, must see that the patient is kept alive as well as be there to counsel, guide and befriend him. He should be selected for his desirable qualifications for the work, given a careful training for his duties, and receive the salary and recognized status to afford him continued satisfaction in his work.

Frequently this has not been the case. The meagre salary paid the attendant has made it difficult to attract sufficient people of the right calibre to this work, so that, when economic conditions outside the hospital are good, many vacancies exist and often the problem of ward coverage is so acute that it has been difficult to give proper consideration to qualifications when employing attendants. This contributes to the unsatisfactory attendant-patient relationships which at times are brought to the attention of the public.

According to the Committee on Careers in Nursing, there was a shortage at the beginning of this year of 65,000 graduate nurses in civilian fields and it is unlikely that the shortage will be relieved for some time. During 1951 the nursing schools operated at about 88% of capacity with around 7% of high school graduates entering the field. From these figures it seems doubtful that mental hospitals can in the near future, even if finances allow it, be staffed with well prepared graduate nurses. Graduate nurses are, and always will be, essential for organizing, directing, teaching and supervising the nursing services and educational programs.

In many states various programs are being developed to provide well prepared personnel in the nursing services. The "attendant" who has been closely associated with custodial concepts of care is now being replaced in many states by the "psychiatric aide". He is a member of the nursing service who has been carefully selected and prepared to carry out, with others of the team, the modern care and treatment of the mental patient. In the Department of Mental Hygiene and Hospitals, Commonwealth of Virginia, there exists at the present time many

vacancies for graduate nurses and for attendants. The need for a better prepared nursing service is a recognized one inasmuch as it is realized that future progress in the care of the mentally ill will be in relation to the adequacy of the nursing service to carry out the program of treatment directed by the physician.

Educational programs within the nursing service of our Virginia State Hospitals are being developed as follows:

- (1) An in-service program for graduate nurses who have not had previous psychiatric preparation in nursing. Such a program is now in operation at Central State Hospital, Petersburg, Virginia.
- (2) Expansion of an affiliation in psychiatric nursing within all state mental hospitals. At the present time only our Eastern State Hospital has an affiliation in psychiatric nursing.
- (3) A course of advanced preparation in administration and supervision in psychiatric nursing.
- (4) A program for a new classification of nursing personnel to be known as "Psychiatric Aide".

Recognizing that, for the present, sufficient graduate nurses to staff our hospitals are not available and that the present classification of attendant has

failed to attract sufficient numbers of persons of the right calibre to fill existing positions for attendants, we propose to establish the position of psychiatric aide.

The psychiatric aide will be required to have a high school education, or have the ability and background to meet the equivalent of a high school education. He will be selected for his emotional stability, personality, interest and aptitude for this work; will be given adequate preparation for his duties, and should receive the salary and recognition necessary to attract qualified persons to this work as a career.

This course for the psychiatric aide has as its aim: "To provide a group of personnel within the nursing service, who have the necessary understanding, knowledge and skills to contribute to effective care and treatment of the mentally ill in our hospitals, and to the promotion of better health in the community."

Advanced courses for psychiatric aides who are to become charge psychiatric aides and supervisors will be developed, as well as advanced courses for graduate nurses, for, only by continued preparation for duties and responsibilities can graduate nurses and psychiatric aides be effective as members of the team working towards the recovery of the patient.

New Physical Laboratory.

Latest addition to AMA headquarters in Chicago is the new physical laboratory which was opened last month for testing of devices submitted to the Council on Physical Medicine and Rehabilitation. Dr. Frederick T. Jung, director of the laboratory, says that the majority of the laboratory's work is concentrated on testing actual mechanics of new devices submitted by manufacturers to the Council. This supplements the clinical testing which will continue to be done by practicing physicians who cooperate with the Council in this way. The results of physical and clinical testing are referred to the Council for evaluation and approval.

New Director Heads Medical Education Foundation.

The Board of Trustees has announced the appointment of a full time executive secretary for the American Medical Education Foundation. Mr. Hiram W. Jones, former director of finance for the Chicago region of the National Conference of Christians and Jews, assumed his duties with the Foundation May 1. An intensified campaign among state societies for voluntary contributions for the Foundation is being conducted this spring. Russell F. Staudacher, who formerly directed the activities of both the American Medical Education Foundation and the Student American Medical Association, will devote his full time as executive secretary of the Student AMA.

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.,
State Health Commissioner of Virginia

The Cancer Control Program

Cancer stands second as the cause of death in the United States, ranking next to deaths from cardiovascular diseases and arteriosclerosis. There are well over 200,000 deaths per year and there are approximately 700,000 persons afflicted with cancer at any one time. In Virginia there were 3,324 deaths from cancer in 1951.

Because of the magnitude of the problem and the fact that it affects almost all of our families, fifty-two states and territories have established Cancer Control programs. These facilities and services are supported by State and Federal funds. The official cancer programs are administered by some unit of the health department in all of the states and territories except Arkansas and New Hampshire where a state cancer commission has the responsibility.

The Bureau of Cancer Control of the Virginia State Health Department came into being as a result of the interest of the Virginia branch of the American Cancer Foundation, now known as the American Cancer Society, and the Cancer Committee of The Medical Society of Virginia which resulted in the passage of a resolution by the General Assembly of Virginia in February, 1944, directing the Virginia Advisory Legislative Council to make a study and report on the problem of cancer control and treatment in Virginia. The Council made its report to the Governor in September 1945, and, as a result, the General Assembly of 1946 made an appropriation to the State Health Department for use in cancer control in the state during the following biennium. This appropriation together with a grant of Federal funds made through the United States Public Health Service, resulted in the establishment of the Bureau of Cancer Control of the Virginia State Health Department in 1947.

The program as established is the program that is being carried on to-day. Its major element consists of case-finding with emphasis on early diagnosis and prompt and adequate treatment. Case-finding is the result of efforts by individuals, private physicians, dentists, public health nurses, and detection clinics. Diagnostic studies are made by private phy-

sicians, dentists, hospitals in connection with examinations for other diseases, and diagnostic clinics. Certain supplementary projects have been undertaken to implement the above and these include epidemiological studies, educational programs, both professional and lay, biopsy service, and aid to clinics.

The epidemiological studies are studies of the background of the development of cancers rather than the causes. This is done by abstracting the hospital records of tumor cases throughout the state and from these establishing a Central Cancer Register in the State Health Department. These records will be subjected to statistical study.

The educational program is extremely vital. Professional education is carried on in cooperation with the Cancer Committee of The Medical Society of Virginia and lay education in cooperation with the Virginia Division of the American Cancer Society. Professional education consists of talks to professional groups, presentation of films, distribution of "The Cancer Bulletin" to the doctors of Virginia registered with the State Board of Medical Examiners, and cooperation with the two medical schools. Lay education is carried on through addresses to women's clubs, civic clubs, parent-teacher associations, films, and workshops.

The biopsy service offers to the physicians of Virginia for their medically indigent Virginia patients free examination of biopsies when sent to the participating pathologists accompanied by the forms supplied by the Bureau of Cancer Control. The biopsies are sent by the physician direct to the pathologist and the reports are made direct to the physician. A copy is sent to the Bureau of Cancer Control. A list of the cooperating pathologists, the necessary forms and mailing cases may be obtained from the State Health Department, Bureau of Cancer Control.

Aid to clinics is in the form of an honorarium to one clinician per clinic session in each of the tumor clinics approved by The Medical Society of Virginia and the Hospitalization-Diagnostic Service. This permits the approved tumor clinics to admit for hospitalization for a period not exceeding three days certain patients on whom they find that further study

for diagnosis will be necessary. The State Health Department does not enter into the payment for treatment of cancer patients.

The whole cancer control program of the State Health Department has been approved by The Medical Society of Virginia. The Cancer Committee, one of the permanent committees of The Medical Society of Virginia, acts as an advisory committee for things pertaining to cancer control in the state. In supporting activities of the Bureau of Cancer Control of the State Health Department members of The Medical Society of Virginia are lending their support to action taken by the Cancer Committee and the House of Delegates of their own Society.

MONTHLY MORBIDITY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL				
	April 1952	April 1951	Jan.-Apr. 1952	Jan.-Apr. 1951
Brucellosis	3	4	7	19
Diarrhea & Dysentery	82	122	1015	651
Diphtheria	9	8	36	52
Hepatitis	32	1	243	5
Measles	3543	3074	9657	7164
Meningitis				
(Meningococcic)	27	10	78	52
Poliomyelitis	0	1	8	14
Rabies in Animals	53	22	221	55
Rocky Mt. spotted fever	1	0	3	0
Scarlet fever	117	100	330	578
Tularemia	0	1	22	18
Typhoid & Paratyphoid	4	2	18	18

BOOK ANNOUNCEMENTS

The Fight Against Tuberculosis. An Autobiography. By FRANCIS MARION POTTENGER, M.D. Henry Shuman, Inc., New York, N. Y. 1952. xii-276 pages. Cloth. Price \$4.00.

Diagnostic Bacteriology. A Textbook for the Isolation and Identification of Pathogenic Bacteria. By ISABELLE GILBERT SCHAUB, A.B., Technical Director, Clinical Bacteriology Laboratories, The Johns Hopkins Hospital; etc. And M. KATHLEEN FOLEY, M.A., Instructor in Bacteriology, Department of Biological Sciences, College of Notre Dame of Maryland; etc. Fourth Edition. St. Louis, The C. V. Mosby Company, 1952. 356 pages. Cloth. Price \$4.50.

Living in Balance. By FRANK S. CAPRIO, M.D. The Arundel Press, Inc., Washington, D. C. 1952. x-246 pages. Cloth. Price \$3.75.

Histopathological Technic. Including a Discussion of Botanical Microtechnic. By ARAM A. KRAJIAN, Sc.D., Formerly in Department of Pathology, Los Angeles County General Hospital, Los Angeles, Calif. And R. B. H. GRADWOHL, M.D., Pathologist to Christian Hospital, St. Louis; etc. Second Edition. St. Louis, The C. V. Mosby Company. 1952. 362 pages. With 131 Text Illustrations and 7 Color Plates. Cloth. Price \$6.75.

Penicillin Decade. 1941-1951. Sensitizations and Toxicities. By LAWRENCE WELD SMITH, M.D., Medical Director, Commercial Solvents Corporation, and ANN DOLAN WALKER, R.N., Former editor "Trained Nurse and Hospital Review". Arundel Press, Inc., Washington, D. C. 1951. 122 pages. Price \$2.50.

An up to date review of the published reports of untoward reactions occurring during penicillin ther-

apy. In conclusion, the author issues a word of caution against the indiscriminate use of antibiotics. With complete bibliography.

J.D.R.

Biological Antagonism. The Theory of Biological Relativity. By GUSTAV J. MARTIN, Sc.D., Research Director, The National Drug Company, Philadelphia. The Blakiston Company, Philadelphia and New York. 1951. xii-516 pages.

Much of the literature pertaining to the general problem of antagonism in biology has been brought together in this book. Although not entirely complete in certain aspects, the main purpose of compiling a reference work has been well accomplished. Naturally, the pharmacological effects of many substances have been discussed. Besides consideration of drug action, chapters are also included reviewing the action of amino acid, protein, vitamin, purine, pyrimidine, lipid, and ion antagonists. An attempt has been made to relate the antagonistic action of these substances to a competition with naturally occurring metabolites for certain specific reaction sites. Certain further interesting speculation has been presented, but the author has been careful, in so far as possible, to separate his own ideas from the main body of facts.

S.S.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President.....MRS. HERMAN W. FARBER, Petersburg
President-Elect—

MRS. THOS. N. HUNNICUTT, JR., Newport News
Recording Sec'y.....MRS. L. BENJ. SHEPPARD, Richmond
Corresponding Sec'y..MRS. CARNEY C. PEARCE, Petersburg
Treasurer.....MRS. KALFORD W. HOWARD, Portsmouth
Publication Chairman MRS. ROBT. H. DETWILER, Arlington

wick in Newport News on the 26th, at which plans were completed for Doctors' Day which was observed on the 30th of that month.

CAMMIE E. DICK (MRS. MURRAY),
Chairman, Publicity.

NORTHAMPTON-ACCOMAC

National Meeting.

The Woman's Auxiliary to the American Medical Association has issued an interesting program for their twenty-ninth annual meeting in Chicago, June 8-13. Headquarters will be at the Conrad Hilton Hotel (formerly the Stevens). Tickets for all general sessions and social functions of the Auxiliary should be obtained at the time of registration. Registration desk is in the Grand Ballroom Foyer (Mezzanine Floor) of the Conrad Hilton Hotel.

The general program will start on Monday, the 9th, at 9:00 a.m., with round table discussions, and the formal opening of the annual meeting will be at the same hour on Tuesday. The general meetings and entertainments will run through Thursday, the 12th. Mrs. Harold F. Wahlquist of Minneapolis, president, will preside.

News from Auxiliaries.

WARWICK

At the meeting of the Auxiliary on February the 27th, Mr. Ford of Langley Field, by invitation, spoke on "Survival Under Atomic Attack". It was announced that there was a First Aid class taught by the Red Cross, with ten members of the Auxiliary taking instruction.

Dr. and Mrs. J. F. Gayle announce the birth of a daughter on March the 9th, and Dr. and Mrs. C. W. Beaven also on March the 10th.

The March meeting was a luncheon at Hotel War-

The Spring meeting of this Auxiliary was held at the home of Mrs. J. Fred Edmonds in Accomac on April the 8th with thirteen members present. The members enjoyed a dessert course and a social period, following which the president, Mrs. John Wise Kellam, presided at the business session. Following the devotional, minutes of the January meeting were read and the treasurer's report given.

Mrs. Kellam reported on the meeting in Richmond and urged members to stress civilian defense programs.

Members were asked to aid in the nurse recruitment program and in the entertainment of student nurses. They were also urged to take a more active part in politics.

Mrs. J. L. DeCormis asked that members give as much publicity as possible to The Gulfstream Nurses' open house day for the benefit of the Northampton-Accomac Hospital. It was also suggested that members attend "off the shore" meetings when possible.

Mrs. John Hamilton, chairman of "Today's Health", requested that members promote this publication, both among the laity and the medical profession.

The Auxiliary will be guests of Mrs. John Wise Kellam at her cottage at Silver Beach on the second Tuesday in July.

CATHERINE R. TROWER (MRS. E. HOLLAND),
Chairman, Press and Publicity.

EDITORIAL

Nannie Jacquelin Minor, R. N., 1871-1934

IN 1900, when Miss Nannie Minor graduated at the Old Dominion Hospital Training School, nursing, as indeed all medicine, was poorly organized in Virginia. Most of the patients in the hospitals were surgical and most of the surgery was appendectomy. Well do we remember when we returned to school after a short vacation home, being asked, by Stephen Watts, who was resident on surgery, if we saw any surgery other than appendectomies. Richmond had no full time health officer and tuberculosis led by a wide margin all diseases in mortality. Typhoid fever and infantile diarrhea were endemic.

The first training school for nurses in this country was established at Bellevue in 1873 and in the same year New Haven, the Massachusetts General Hospital, and Johns Hopkins also started training schools. The first training school in Virginia was St. Luke's where, in 1886, "Miss Walker, a clever and accomplished lady, presides over the nurses", who included seven ladies and one or two male nurses. "The course of instruction included lectures, demonstrations, and recitations in anatomy, physiology, symptomatology, therapeutics, and hygiene." In 1891 a training school for colored nurses was organized at the Hampton Training School. The Retreat for the Sick started its training school in 1893 and the Virginia Hospital one in 1895-96.

In 1895 the Old Dominion Hospital started a two year course of nurses' training under Miss Sadie Heath Cabaniss, a graduate of the Johns Hopkins Hospital School. She is usually considered the first superintendent of a training school in Virginia, and she certainly is due great credit for the high plane of nurse training in Richmond.

Such was the hospital and nursing background at the turn of the century. A few hospitals had short courses to train scarcely sufficient nurses for their own use. Other hospitals had no such training and there was only one hospital training school comparable to the training schools of the North.

Nannie Jacquelin Minor was born June 15, 1871 to John B. Minor and Anne Colston Minor, the youngest of a family of two brothers, two sisters and a half sister. John B. Minor was the first professor of law at the University of Virginia and probably the greatest in the whole South. Her mother was an invalid and it has been suggested that this was the determining factor in her dominating desire to become a nurse. She was a delicate child and did not go to school, but had her father's niece as a governess. Whether this was on account of the social status or of her health, the record is not clear. The only other medical factor in her upbringing was that both Dr. Osler and Dr. George Ben Johnston were friends of the family.

Considering the newness of the nursing profession and the fact that it had not won its place in the esteem of the public, together with Miss Minor's poor health characterized by nervous vomiting, the opposition of her family to her entering a training school is understandable. Nevertheless she went forward with her plans and wrote to the Johns Hopkins Training School for application blanks. As it turned out she entered the hospital as a patient rather than as a probationer. Evidently she was suffering from anorexia nervosa, for she was given the treatment usually accorded such patients at that time—isolation and observation. At the end of the "cure", Dr. Osler advised the family that the patient should be allowed to enter the training school.

It seems that Miss Minor had been a patient in the Old Dominion Hospital before she was sent to Johns Hopkins and had become fond of Miss Sadie Cabaniss who had

been brought to Richmond to establish a training school modeled after the one at Hopkins. Although she had carried an application to the Johns Hopkins Training School for three years, she decided on Miss Cabaniss' school. Later she took some post-graduate courses at Johns Hopkins and the Thomas Wilson Sanatorium.

In 1900 Miss Cabaniss, Miss Minor, Miss Sarah Harvie, and Miss Randolph rented a house in the poor section of town and started a Nurses' Settlement patterned after the Hester Street Settlement which had been established in New York some ten years previously. This was the starting point of social work in Richmond. They were at once confronted with three problems: to pay the rent, to "sell" the idea to the citizens of Richmond, and to demonstrate to their neighbors how to live hygienically. In the first group there were eight nurses who worked after hours. They tried to interest the various churches, but had little success.

The social and semi-social agencies of the time were the City Mission, the City Board of Health (no full time health officer), the King's Daughters, Children's Aid Society, Public Charities, whose superintendent was also in charge of the City Home, Little Sisters of the Poor, Hebrew Benevolent Association, Lee Camp Auxiliary, Methodist Mission, Ice Mission, Y.W.C.A. and the Y.M.C.A. The work of this social group soon came to the attention of Mrs. B. B. Valentine who asked Miss Minor to tell the Woman's Club about their work. The result was that the ladies brought some business into the organization. The Instructive Visiting Nurses Association was incorporated and a charter was obtained in 1901. Miss Arents gave them the use of a house, rent free for three years. Miss Cabaniss was titular head of the Association, at first, but by common consent most of the executive problems fell on Miss Minor's shoulders.

For funds to carry on the work, the I.V.N.A. was dependent upon gifts. The Metropolitan Life Insurance Company paid them a fee for each visit to a policy holder. After 1908 an annual tag day was held. Whenever they had more money than they actually needed, they would add an extra nurse to take care of their most pressing need as a pilot project. Some of these would be taken over by the city, and the I.V.N.A. would turn to another project. The first of such projects was a tuberculosis clinic which was started in the home of a widow on Maiden Lane. This was an immediate success and the Health Department took over the work and established two clinics in different parts of the city, and the I.V.N.A. started another pilot project at the suggestion of Dr. William Tate Graham. This grew into the Crippled Children's Hospital. Each summer they ran a babies' hospital at Lakeside for Dr. McGuire Newton until health conditions in Richmond became so good that the hospital was no longer needed. School nursing was another pilot project. This was taken over by the school board. Well baby clinics is one of the projects that the I.V.N.A. has continued in their district while the city Health Department has carried on the work in other parts of the city. The same may be said of the prenatal clinic. The home delivery service is one that the I.V.N.A. has held on to from the very beginning. It fits so well with their neighborhood classes, bedside nursing, loan closet et cetera.

In addition to her work with the I.V.N.A., Miss Minor is to be remembered for her work with the Nurse Practice Act in 1903, and she was a member of the original State Board of nurse examiners, and a charter member of the Graduate Nurses Association of Virginia.

In 1921, Miss Minor resigned as director of the I.V.N.A. to take charge of the organization of State Public Health Nursing Service, a position she held until 1932.

Miss Minor died in Lewisburg, W. Va. on January 30, 1934, and is buried in the cemetery of the University of Virginia. Her grave is marked by a modest stone which bears the simple inscription "Virginia Pioneer of Instructive Visiting Nursing".

Original Articles for Publication

A CONSIDERATION of the present backlog of articles awaiting publication in the VIRGINIA MEDICAL MONTHLY discloses that at least a seven month's supply is now on hand. The interval of time between the submission of an article and its publication varies during the year and is closely related to the flood of articles presented at the annual meeting of the Medical Society.

It would seem desirable to achieve publication of an article within six months after it is submitted. Obviously such an ideal is not always possible but, in order to maintain a reasonably short interval, the editorial board must give consideration to the length of articles. Because of the limitations of space, those exceeding six pages in the MONTHLY must await their turn in a separate category. Ordinarily it is not possible to publish more than one long article each month. Thus, if an unusual number of long articles is on hand, a shorter article may be pushed ahead to an earlier publication date. This policy seems only fair in order to serve the largest number of authors.

A study was made of the length of original articles published during 1950 and 1951. In 1950 there were seventy short articles of four pages or less, fifteen medium length articles of five to six pages, and fourteen long articles of six pages or more. The figures for 1951 were sixty-three, twenty-eight and eight respectively.

Authors are urged to conserve space by every means possible. Only those x-rays should be selected for publication which can be expected to reproduce satisfactorily. A long and detailed list may often be presented more effectively by composite graphs or by summaries. By this method not only is a vast amount of space saved but the reader's attention is more readily attracted. Lengthy bibliographies probably have little place in a State Medical Monthly.

L.H.B.

Floral Eponym

HEBENSTRETIA

Hebenstreit, Johann Ernst, 1703-1757, studied medicine in Leipzig but, before completing his thesis, he made a journey of scientific exploration to Africa. Upon graduating in medicine he entered the faculty and for the last ten years of his life he was dean. He died December 5, 1757.

Hebenstretia is a genus of 30 species of South African herbs or shrubs.

PRESIDENT'S MESSAGE

ELSEWHERE in this issue of the MONTHLY there is an editorial by Dr. Vernon Lippard concerning the American Medical Association Education Foundation. I hope it will be read carefully by every member of the Medical Society of Virginia.

Nothing more vitally concerns the medical profession of America today than the support of the medical schools in this period of their great crisis. The freedom of American medicine is as immediately threatened by governmental control of medical education as by the institution of compulsory health insurance.

If private means are not immediately found to provide financial support to the medical schools of this country, the only recourse will be to accept financial aid from the Federal government, and that very quickly means control by the Federal government.

A committee has been appointed in Virginia to raise funds for medical education in cooperation with the American Medical Association Education Foundation. Dr. Marcellus Johnson, Jr., of Roanoke is chairman. You will be hearing from that committee in the near future. Be prepared to give liberally, that you may maintain your freedom.

JOHN T. T. HUNDLEY, M.D., *President,*
The Medical Society of Virginia

SOCIETIES

The Spring Clinical Conference

Of the Midtidewater and Northern Neck Medical Societies, was held at Tappahannock in the Yacht Club, Dr. A. Broaddus Gravatt, presiding. The program was conducted under the auspices of the Committee on Continuation of Medical Education of The Medical Society of Virginia, of which Dr. Kinloch Nelson is chairman.

The program was of practical value to the general practitioners assembled.

Dr. M. J. Hoover, Jr., Medical College of Virginia, spoke on "Office Treatment of Common Fractures."

Dr. E. L. Kendig, Richmond, on "Infant Feeding."

Dr. C. G. Gibson, Medical College of Virginia, spoke on "Antibiotics, the Uses and Selection in Treatment of Various Diseases."

The next meeting of the Midtidewater Medical Society will be held at Urbanna, July 22, 1952.

The Fairfax County Medical Society

Met at the home of Doctor Nelson Podolnick in Falls Church on April 10th.

There was a very short business meeting, followed by a paper by Doctor Sigmund Newman on "Limitations of X-Ray". There was an unusually large

attendance. The meeting adjourned for refreshments.

The next meeting will be held on the second Tuesday in May at the home of Doctor William Harris.

ALICE H. KIESSLING,
CLAUDE COOPER,
Publicity Committee

Alexandria Medical Society.

Officers of this Society to serve for the year beginning May are: President, Dr. Milton R. Stein; vice-president, Dr. F. Preston Titus; and secretary-treasurer, Dr. John E. Roberts. Dr. Jerome Baum was elected a member of the Executive Committee for two years. Drs. Walter L. Nalls and A. C. Wyman continue on the committee for another year.

The Lynchburg Academy of Medicine.

The April meeting of the Academy on the 14th was held at a dinner at the Virginia Hotel, Lynchburg, but no business of importance was transacted at this time.

Richmond Academy of Medicine.

At the meeting of the Academy on May 13, the guest speaker was Dr. Alto E. Feller of the Department of Microbiology of the University of Virginia. His subject was "Streptococcal Infections and the Prevention of Rheumatic Fever".

NEWS

Scientific Exhibits.

Dr. Eugene L. Lowenberg, Chairman of the Committee on Scientific Exhibits, announces that the Committee will now receive applications for scientific exhibits for the meeting of The Medical Society of Virginia to be held in Richmond, September 28th through October 1st. The deadline for applications will be June 15th. The executive committee will then choose those to be shown and notify the exhibitors by July 1st. This will be necessary because of limited space at disposal for scientific exhibits. Applications should be requested from Dr. Hunter B. Frischkorn, Jr., 1000 West Franklin Street, Richmond 20, Virginia.

News from the State Health Department.

Dr. V. A. Turner has resigned as assistant director of local health services to accept a position with the Mountain Home Veterans Hospital in Johnson City, Tennessee.

Dr. James M. Suter,

Who has been health officer in the Smith-Washington-Bristol district with headquarters at Abingdon, has been appointed by State Health Commissioner, Dr. M. I. Shanholtz, as assistant director of health services in Southwest Virginia, succeeding Dr. V. A. Turner, resigned. He will continue to operate from Abingdon.

The Virginia Academy of General Practice

Held its second annual Scientific Assembly in Roanoke, May 8 and 9. This was a most interesting and successful meeting and is reported in detail in the Miscellaneous Department of this issue.

Dr. Thomas K. McKee Honored.

The Smyth County Medical Society held its meeting on April 16, in honor of Dr. Thomas K. McKee of Saltville, who is retiring from part of his duties after fifty-five years of practice in Smyth County. A banquet was held for him at the Lincoln Hotel in Marion. Dr. J. C. Motley of Abingdon was the guest speaker and presented Dr. McKee with a key from the County organization in recognition of his long and faithful service to the medical profession. The banquet was largely attended by a number of doctors and their wives.

Dr. Charles E. McKeown,

Richmond, announces the removal of his office to Lee Medical Building, Monument Avenue at Allen.

TV to Bring AMA Meeting to Public.

Doctors who cannot personally attend the American Medical Association's annual meeting June 9 to 13 in Chicago will have the opportunity of viewing its highlights via television. As the nation's top medical authorities report to doctors on the latest medical developments, NBC mobile TV units will move through the corridors of the exhibit hall at Navy Pier, transmitting the news coast-to-coast. Present arrangements call for two half-hour programs to be televised on Tuesday and Wednesday evenings over most NBC network stations. The telecasts are being sponsored by Smith, Kline and French, Philadelphia pharmaceutical firm.

Dr. and Mrs. Philip Jacobson,

Petersburg, left early in May for Europe, where Dr. Jacobson will attend sessions of the International College of Surgeons at Madrid. They will return about the first of July.

Dr. Harvey B. Haag,

Professor of pharmacology at the Medical College of Virginia, Richmond, was selected as president-elect of the American Society for Pharmacology and Experimental Therapeutics at its forty-second meeting held in New York City in April. Doctor Haag was secretary of this organization from 1947

to 1951. Only once before has its presidency been held by a scientist from a southern institution.

The primary purpose of the society is to further research on the physiological effects of chemicals of importance to human health, particularly in terms of their discovery and use as drugs in the prevention and treatment of disease. It was founded in 1908 by Dr. John J. Abel, late professor of pharmacology at the Johns Hopkins University School of Medicine.

Gill Memorial Spring Congress.

The Twenty-fifth Annual Spring Congress of the Gill Memorial Eye, Ear and Throat Hospital was held in Roanoke, Virginia, April 7 through 12, 1952. This was the Silver Anniversary of the Congress and it marked the largest attendance in the history of the school. The total registration including ladies was 464. The 1953 meeting will be held April 6 through 11.

News from University of Virginia Department of Medicine.

Dr. William Parker Anslow, Associate Professor of Physiology at New York University, has been appointed Professor of Physiology and Chairman of the School of Physiology. He will succeed Dr. Sydney W. Britton who will retire in June following a leave of absence as Fulbright Fellow in South Africa. Dr. Anslow has been associated at New York University with Dr. Homer Smith, a former Professor of Physiology at the University of Virginia.

Dr. William Edward Bray will retire as Professor of Clinical Pathology and Director of the Clinical Laboratories in July. With the exception of one year, he has served the Department of Medicine continuously since receiving his M.D. degree from the University in 1912, and has taught thirty-nine classes.

Dr. Bray first organized the clinical laboratories at the University in 1922. He founded the school for medical technologists at the University Hospital and compiled useful laboratory techniques and procedures into "Clinical Laboratory Methods", a manual now in its fourth edition.

The scientific program of Medical Alumni Day, June 6, will be opened by Dr. J. William Hinton, Professor of Surgery of New York University Post-

Graduate Medical School, who will speak on "Physiologic Factors in the Management of Essential Hypertension". Members of the faculty of the University Department of Medicine will give reports of studies in progress at the medical school.

Dr. Harry B. Taylor, President of the Medical Class of 1902 which will celebrate its fiftieth anniversary this June, will address alumni and graduates of the Class of 1952 at the Annual Alumni Dinner, Farmington Country Club, June 6.

Eli Lilly and Company Aids Flood Victims.

Eli Lilly and Company is replacing all Lilly products in pharmacies and hospitals ravaged by the flood in the Missouri and Mississippi River Valleys. Representatives in a dozen states, from Montana to Missouri, have been directed to make the replacement of flood-damaged Lilly pharmaceuticals and biologicals their first order of business. Along with the replacement of stocks, the Lilly company maintains a reserve supply of typhoid vaccine and other biological products which is kept ready for fast shipment during disasters. The Company has been replacing stocks damaged by uninsurable hazards as far back as the 1906 San Francisco disaster.

Drs. Rawles and Cherry.

Dr. Benjamin W. Rawles, Jr., and Dr. Kenneth J. Cherry announce the removal of their offices to 2306 Monument Avenue, Richmond.

The American Society of Medical Technologists

Will hold their twentieth annual convention in Portland, Oregon, June 22-26. All members of the medical profession will be welcome.

Society for the Prevention of Asphyxial Death.

To the first 100 Virginia physicians who become members of the Society following this notice, the offer has been made to donate a copy of the Art of Resuscitation by Paluel J. Flagg, M.D., autographed by the author. The book is listed for \$6. Physicians who wish to receive this book, however, are asked to apply for membership in the Society, enclosing membership dues of \$5. Communications should be addressed to Secretary, S.P.A.D. Inc., 2 East 63rd Street, New York City 21.

Dr. Gill Honored

At the annual meeting of the New York Eye and Ear Infirmary in New York City on April 22nd, 23rd, and 24th, Dr. E. G. Gill of Roanoke, was elected president of the Alumni Association of the New York Eye and Ear Infirmary and also a member of the Board of Directors of the Hospital.

Editorial Assistants-Collaborators.

A clearinghouse service on competent editorial assistants or collaborators to assist in the preparation of papers for meetings, publications or clinical demonstrations is being established. Technicians qualified to assist in editing explanatory or sound tract material in conjunction with professional motion pictures are included. For information address Academy-International of Medicine, 214 West Sixth Street, Topeka, Kansas.

Guided Tours of AMA Headquarters.

If you are planning to visit Chicago for the AMA meeting, plan to take advantage of the new guided tour service at AMA headquarters. This service will be available during the AMA annual session, and all attending the convention are invited to visit 535 North Dearborn Street. Guided tours will leave the AMA front lobby every hour on the hour from 9 a.m. to 4 p.m., June 9 to 13. This tour program is to be a permanent AMA service.

1952 Award Contest.

The National Gastroenterological Association again announces its Annual Cash Prize Award Contest for 1952. One hundred dollars and a Certificate of Merit will be given for the best unpublished contribution on Gastroenterology or allied subjects. Contestants residing in the United States must be members of the American Medical Association.

All entries for the 1952 prize should be limited to 5,000 words, be typewritten in English, prepared in manuscript form, submitted in five copies accompanied by an entry letter, and must be received not later than 1 September 1952. They should be addressed to the National Gastroenterological Association, 1819 Broadway, New York 23, N. Y.

Wanted—

Associate physician (general practice); drawing account plus commission; rapid advancement; twenty miles from Richmond. Write P. O. Box 257, Providence Forge, Va. Phone 541. (*Adv.*)

Medical Resident Wanted.

Beginning July 1, fully approved 165-bed general hospital has opening for Medical Resident. Stipend \$150 a month and maintenance. Address "Medical Director", C. & O. Hospital, Huntington, West Virginia. (*Adv.*)

Wanted—

Experienced Superintendent of Nurses and Laboratory Technician for a small hospital. A satisfactory salary with maintenance. Lebanon General Hospital, Lebanon, Virginia. (*Adv.*)

Wanted—

General Practitioner in Virginia, to practice with small established group. Address "Physician", care Virginia Medical Monthly, 1105 West Franklin Street, Richmond 20, Va. (*Adv.*)

General Practitioner

Licensed in Virginia desires to purchase home and practice in Tidewater area. To replace, or join with established physician, or will consider entering into an area of need. Reply "No. 90," care this journal, 1105 West Franklin Street, Richmond, Va. (*Adv.*)

OBITUARIES

Dr. Matt Otey Burke,

Retired physician of Richmond, who had practiced medicine for more than sixty years, died at his home here on April 23. He received his degree in medicine from Tulane University in the class of 1891 and practiced in Russell County before locating in Richmond. He was connected with the staffs of the former University College of Medicine and later the Medical College of Virginia for some years. His wife and three sons, one of them Dr. James O. Burke, survive him.

Dr. Russell Landram Haden,

Crozet, died April 26 in Cleveland, where he, accompanied by his wife, had gone to attend a meeting of the American College of Physicians. He was sixty-four years of age and a graduate in medicine from Johns Hopkins University in 1915. He was a noted authority on blood diseases and rheumatic diseases and at the time of his death was national chairman of the Red Cross blood program. He had been a member of The Medical Society of Virginia since returning to Virginia.

Dr. Charles M. Hazen,

Who practiced in Richmond for many years until his retirement, died at a nursing home in Bon Air, April 22, after a long illness. He was eighty-seven

years of age and graduated in 1897 from the Medical College of Virginia, in which he was emeritus professor of Physiology.

Dr. Bolling Jones Atkinson

Died at his home at Emporia, April 15. He was fifty-two years of age and a graduate of the Medical College of Virginia in 1923. He had been a general practitioner in Greensville County for twenty-seven years and was formerly a member of The Medical Society of Virginia. His wife and two children survive him.

Dr. William Miller Dick,

Of Hampton, was found dead in a hotel room on April 22. He was fifty-one years of age and a graduate of the Medical College of Virginia in the class of '26. He had been a member of The Medical Society of Virginia for several years. His wife and two children survive him.

Dr. William B. Hopkins,

Tampa, Florida, died suddenly April 27, of a heart attack. He was a Virginian by birth and graduated from the former University College of Medicine in Richmond in 1907. He practiced in Richmond for sometime before moving to Florida where he had made his home for the past twenty-five years. His wife and two children survive him.

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EDEMA AND LYMPHEDEMA OF THE LOWER EXTREMITIES*

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Edematous swelling of the lower extremities has attracted a minimum of attention in recent years. The literature on the subject is sparse and can be attributed to a few men, E. V. Allen, R. K. Ghormley, H. C. Hoffman, John Homans, Pratt, Geza de Takats, Servede and Matthew H. Envoy. A discussion on the treatment of chronic edema of the leg appeared in the Proceedings of the Royal Society of Medicine in London, 1950, Volume 43. Sir Archibald McIndoe, A. M. Boyd, Ian Aird, Sir Harold Gillies and others took part in this symposium. An article by the present author, entitled "Lymphedema of the Extremities", was published in the *Virginia Medical Monthly* of June, 1939. It must be confessed that, of the three vascular systems of the lower extremities, arterial, venous and lymphatic, progress in our knowledge has been least in the lymphatic system.

FORMATION OF TISSUE FLUID

Edema refers to increased fluid within the tissue spaces. Lymphedema refers to increased fluid within the tissue spaces and the lymphatic vessels as a result of inadequate function of the lymphatic system. The source of tissue fluid is the blood vascular system. The osmotic pressure of the blood, maintained by the blood crystalloid and colloid, tends to keep the blood volume intact. It is necessary, however, for elements of the blood to reach the interstitial spaces to carry nutrition to the extra-vascular tissues. Therefore, as the result of arterial pressure, filtration occurs from the blood capillaries into the tissue spaces. This tissue fluid is reabsorbed by two mechanisms, one venous and the other lymphatic. At the venous end of the capillary loop, there is a marked reduction in pressure so that tissue fluid re-enters the blood capillary. Fluid not re-absorbed by the blood

capillary enters the lymphatic circulation to be transported back into the blood system through the thoracic duct. The continuous local circulation of the tissue fluid, out of the arterial end of the capillary and into the venous end, is the most important mechanism. Nevertheless, any disturbance of the delicately balanced lymphatic circulation will cause leg swelling. Normally a fairly constant amount of tissue fluid is maintained by the following factors:

1. Blood capillary pressure
2. Colloid (osmotic) pressure of the blood
3. The tissue tension
4. The interstitial fluid pressure
5. The lymph capillaries

FACTORS FAVORING EDEMA FORMATION

Factors favoring edema formation are listed in Table 1.

TABLE I

1. Increased capillary blood pressure (venous stasis).
2. Low osmotic colloid pressure of the blood.
3. Increased blood capillary permeability.
4. Failure of the kidneys to excrete normal amounts of water and salt.
5. Failure of the lymphatic circulation.
6. Low tissue pressure, the fatty pads about the ankle, and fat in general—lipedema and lipodystrophy.
7. Warm environment—heat edema. (Due to increased capillary permeability.)
8. Dependency—postural edema.
9. Immobility—hypostatic edema. (The motor of the leg circulation in motion.)
10. High fluid intake (increases edema if salt is available).
11. High salt intake (increases edema if water is available).
12. Disturbed innervation—the unilateral edema of hemiplegia, tropho-edema, angioneurotic-edema.
13. Constricting bands, wrongly applied elastic bandages, tight garters, supportless shoes, ankle-straps.
14. Anemia.
15. Endocrine disturbances — myxedema, pre-menstrual

*From the Peripheral Vascular Disease Service of Norfolk General and De Paul Hospitals.

Read before the annual meeting of The Medical Society of Virginia, at Virginia Beach, October 7-11, 1951.

edema, hyperfunctioning tumors of the adrenal gland.

16. Drug administration—ACTH, cortisone.

17. Vitamin insufficiency—Beri-Beri.

Increased capillary blood pressure occurs principally from increased venous pressure as in cardiac failure, venous obstruction, venous incompetency as in varicose veins or in the post-thrombophlebitic state. An increased venous pressure results in decreased absorption of fluid from the tissue spaces; one would expect all venous disturbances to cause marked edema. Clinically, however, disturbances of the veins alone rarely contribute significantly to leg swelling. One frequently sees enormous varicosities and no leg edema, and even if edema is present the removal of the varicosities rarely lessens the edema. On the other hand, the valvular incompetency of the deep venous system that follows ilio-femoral thrombophlebitis is frequently accompanied by leg swelling. In my opinion, this is due more to lymphatic obstruction than to the venous factor.



Fig. 1.—Bilateral varicose veins. Moderate edema.

Low colloid osmotic pressure is seen in malnutrition, cachexia of malignancy, nephritis, nephrosis, cirrhosis, large leg ulcers and extensive burns.

Increased capillary permeability is a frequent cause of leg swelling. A local inflammation or contusion or even slight bruise may cause considerable fluid to leave the blood capillaries and enter the tissue spaces. Heat increases blood capillary per-

meability greatly and explains the frequent occurrence of leg edema during the summer months. Anoxia is a serious cause of increased capillary permeability and explains the irreversible leg edema of advanced peripheral arteriosclerosis.

The lymphatic system is an accessory drainage mechanism which returns colloid and excess tissue fluid to the venous system in the neck when not reabsorbed by the blood capillaries. It is a most delicate system and becomes decompensated extremely easily. Lymphatic circulation failure may be due to congenital inadequacy of the lymphatic system, congenital or acquired lymphangiectasis, valvular incompetency, tubular thrombosis, local, regional or central obstruction.

Many mild cases of leg edema are explained by low tissue pressure. The skin acts as a limiting membrane to inhibit the accumulation of tissue fluid and thin or flabby skin permits leg swelling particularly in hot weather. Fat is a veritable sponge for water. The fatty pads about the ankles are particularly prone to accumulate fluid in the dependent position and obesity accounts for many of the clinical cases of leg edema.

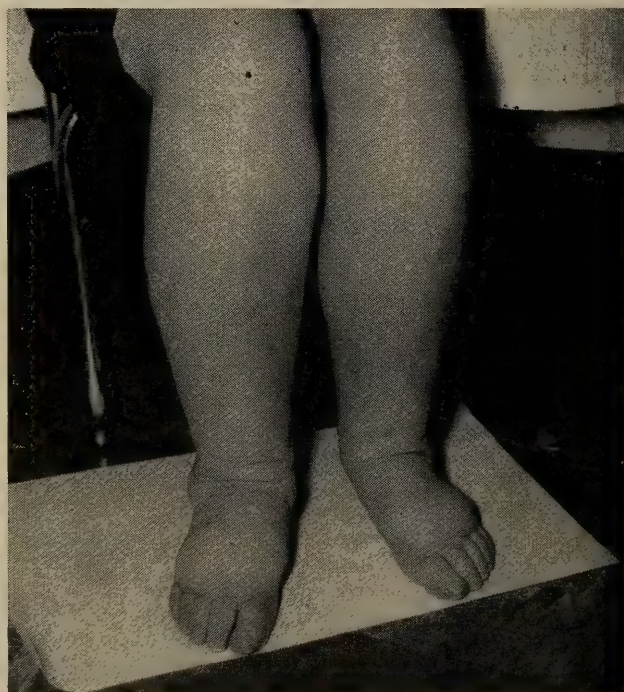


Fig. 2.—Lipedema. Note swelling in fatty pads about ankles.

Even in the horizontal position, the flow of lymph in a motionless extremity is very slight. In the dependent position, there is no lymph flow at all in the immobile extremity. The motor of both the

venous and lymphatic circulation of the lower extremities is motion and immobility and dependency readily cause leg swelling. Add to the picture open, frail shoes or a tight ankle strap and you have the explanation of many swollen feet.

CLINICAL TYPES OF LEG EDEMA

Swelling of the lower extremities may be the initial finding in many and varied conditions. Table 2.

TABLE II CLINICAL TYPES OF LEG EDEMA		
Medical	Vascular	Miscellaneous
Cardiac	Venous Obstruction	Postural
Nephritic	Varicose Vein	Trophic
Nephrotic	Thrombophlebitic	Lipedema
Cirrhotic	Ischemic	Heat Edema
Nutritional	Lymphatic	Traumatic
Endocrine		Inflammatory
Angioneurotic		Mechanical

To classify a given case requires not merely a local examination but a careful appraisal of the patient's history, physical examination and laboratory tests. Special tests are necessary to the understanding of the vascular group—venograms, walking venous pressure tests, twenty-five yard tape test, oscillometric readings.

Not all cases of leg swelling are due to edema. One must exclude lipodystrophy, hemihypertrophy, congenital arterio-venous fistula, acquired arterio-venous fistula, lymphangioma, cavernous hemangioma, arterial aneurysm, sarcoma, Kaposi's tumor and bone tumors.



Fig. 3.—Congenital arterio-venous fistula. Erroneously diagnosed as thrombophlebitis.

LYMPHEDEMA

The lymphatic system accounts for many cases of leg swelling. Our knowledge of exactly what pathology exists is practically nil. Clinically, methods of studying lymphatics such as estimation of lymph pressure, x-ray visualization, chemical analysis, and dye visualization have been entirely fruitless. There is some evidence that the radio-active isotopes, particularly yttrium or I-131 tagged serum albumin, may furnish a clinical means of demonstrating lymph flow. The lymphatics are so thread-like in diameter that it requires approximately a magnification of x-8 to visualize them. Moreover, the vessels are entirely transparent because of the colorless lymph and are so thin walled that they have a tendency to collapse during dissection to expose them. A practical approach to the problem of lymphedema awaits further research. It is well to remember that the lymphatic vessels may undergo pathological processes similar to those of veins—dilate, develop valvular incompetency and retrograde flow, develop paradoxical flow from obstruction, thrombosis, obliterate from tubular lymphangitis or extrinsic pressure. The lymphatic obstruction may be either in the local lymphatic capillaries, the tubular lymphatics of the thigh, the regional lymph nodes of the groin, or the central lymph nodes of the pelvis or higher.



Fig. 4.—Lymphedema from obstruction of the regional lymph nodes. The patient had granuloma inguinale.

Lymphadenopathy usually means lymphatic ob-

struction and may be due to: 1. non-specific lymphadenitis, 2. lymphoma or metastatic invasion, 3. Hodgkin's disease, and 4. tuberculous lymphadenitis.

DIAGNOSIS OF LYMPHEDEMA

As we do not have definite methods of investigating the lymphatic system, the diagnosis of a given case of leg swelling as lymphedematous must be conjectural. The case is apt to be classified as lymphedema when there is unexplained non-inflammatory simple leg swelling, when the swelling has been present since birth, when the swelling has its onset with puberty, or when there is evidence of malignant disease, surgical removal of the lymph nodes or local x-ray therapy. Inflammation in tubular lymphatics accounts for many cases of clinical lymphedema. Ilio-femoral thrombophlebitis is a common cause of inflammatory lymphedema. The diagnosis of the acute episode is well known. Chronic post-thrombophlebitic lymphedema is diagnosed by the history, the characteristic full feeling in the thigh, the brawny induration and pig skin in the lower leg, the venograms, the walking venous pressure, Scott's twenty-five yard tape test and femoral vein exploration. A classification of lymphedema is presented in Table 3.

TABLE III

CLASSIFICATION OF LYMPHEDEMA

- I. Idiopathic or Primary Lymphedema.
- II. Non-Inflammatory Lymphedema
 1. Congenital Lymphedema
 - a. Simple
 - b. Familial (Milroy's disease)
 2. Lymphedema Praecox
 3. Lymphedema secondary to:
 - a. Malignant disease
 - b. Surgical removal of lymph nodes or interruption of lymph vessels.
 - c. Pressure
 - d. Roentgen and radium therapy
- III. Inflammatory Lymphedema
 1. Traumatic Lymphedema (local tissue injury).
 2. Causalgic Lymphedema (from immobility).
 3. Local inflammation (strep. and staph. infections).
 4. Recurrent Lymphangitis streptogenes.
 5. Post-thrombophlebitic Lymphedema:
 - a. From ilio-femoral thrombophlebitis
 - b. From repeated episodes of thrombophlebitis
 6. Allergic Lymphedema (Trichophytosis).
 7. Filariasis.

DISCUSSION

Non-inflammatory lymphedema that has no apparent cause is referred to as idiopathic or primary. Unnoticed trauma may be a factor but I am inclined

to feel that these are instances of decompensation of the delicately balanced lymphatic circulation. Usually the only history obtainable is that of conversion of a normal limb to a swollen one. The swelling is firm but pits on pressure and it is reduced remarkably in size when the extremity is elevated. Only in neglected cases do episodes of lymphangitis streptogenes occur.

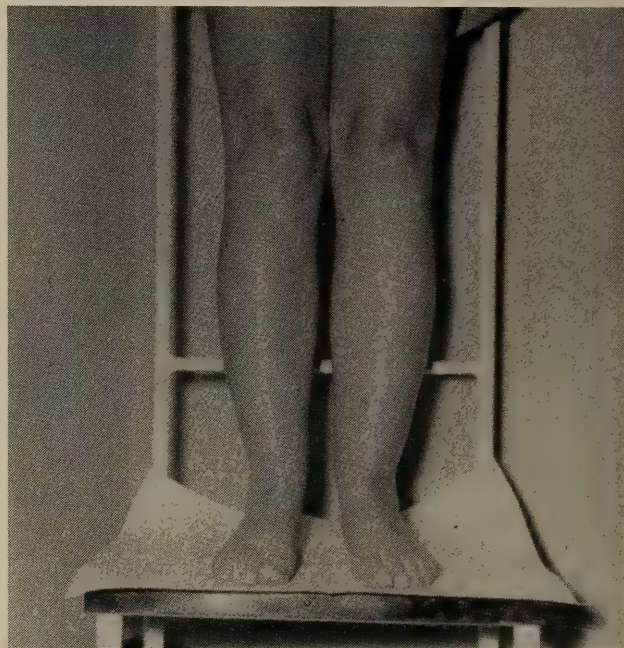


Fig. 5.—Idiopathic lymphedema.

Congenital edema is one of the few types of which we have information concerning the pathology. Tissue biopsy usually reveals greatly dilated thin walled lymph sinuses. A diffuse swelling involving part or all of one extremity has been present since birth. Pain, ulceration or infection rarely complicate the picture. The patients are otherwise in good health.

Lymphedema praecox refers to a non-inflammatory lymphedema that develops at or shortly after puberty. In the majority of cases the onset is between 10 and 25 years of age. One or both extremities may be affected. The edema ordinarily progresses up the leg slowly and the entire limb becomes edematous over a period of months or years. The edema is worse during menstruation and in warm weather, or when the patient is on her feet a long while. The edema is of the pitting variety and disappears on elevation of the extremity. Presumably there is a traffic jam in the pelvis, the lymph circulation from the pelvic organs blocking drainage from the extremities. However, the actual pathology is unknown.

Lymphedema secondary to malignant disease. Swelling of the leg may be the first indication that the patient has a primary or metastatic malignancy. The swelling may indicate carcinomatous invasion of the lymph vessels, malignant infection of the lymph nodes, or obstruction from peri-lymphatic pressure. In the past several years, we have en-



Fig. 6.—Lymphedema praecox. A 12 year old girl whose right leg began to swell at the age of 10.

countered nineteen instances of leg swelling due to the following causes:

Cancer of the cervix.....	10
Cancer of the prostate.....	2
Sarcoma of the soft tissues of the thigh.....	2
Cancer of the colon.....	1
Melanoma of the foot.....	2
Seminoma of the testis.....	1
Koposi's tumor.....	1

One should be especially suspicious of a malignant cause of leg edema when there is persistent pain, progressive edema, only slight improvement with bed rest, no improvement from sympathetic nerve block, and enlarged inguinal nodes. Upper thigh, buttock or scrotal edema, indicating high lymphatic obstruction is to be considered evidence of malignancy until proved otherwise. When a patient has had x-ray therapy for known malignancy and develops leg swelling, it is extremely difficult to arrive at a proper diagnosis. The edema may be due to x-ray fibrosis or recurrence of malignancy.

Traumatic edema is frequently seen clinically. Swelling initiated by a twist of the ankle or a trivial blow on the shin persists indefinitely. Presumably an inflammatory reaction has occurred resulting in

a destruction of the local lymphatics.

Causalgic lymphedema occurs in the painful limb. Because of fear of pain or actual pain the patient fails to move the limb with resultant leg swelling. Inflammatory lymphedema from local infection is familiar to us all. Infected surgical incisions, lacerations, abscesses, furuncles or infected penetrating wounds may all cause inflammatory lymphedema.

Recurrent lymphangitis streptogenes. This is one of the most commonly encountered types of inflammatory lymphedema. The patient is subject to episodes of erysipelas-like attacks which are sudden in onset and striking in severity. Coincident with the development of a small reddened area on the extremity, the patient becomes generally sick with chills and fever. The reddened area spreads until a considerable portion of the extremity is swollen and tender and the skin of the involved part raised and hot. The inguinal lymphadenitis abates and the signs of inflammation disappear. The limb remains swollen, its cutaneous surface discolored and its subcutaneous tissue fibrosed. Unless prophylactic therapy is instituted, attacks follow attacks for years. In addition to the disability caused by the repeated inflammatory episodes, the complications of chronic inflammatory lymphedema, indolent leg ulceration, chronic indurated cellulitis, non-filiarial elephantiasis plague the patient the rest of his life.

Presumably lymphangitis streptogenes is due to an

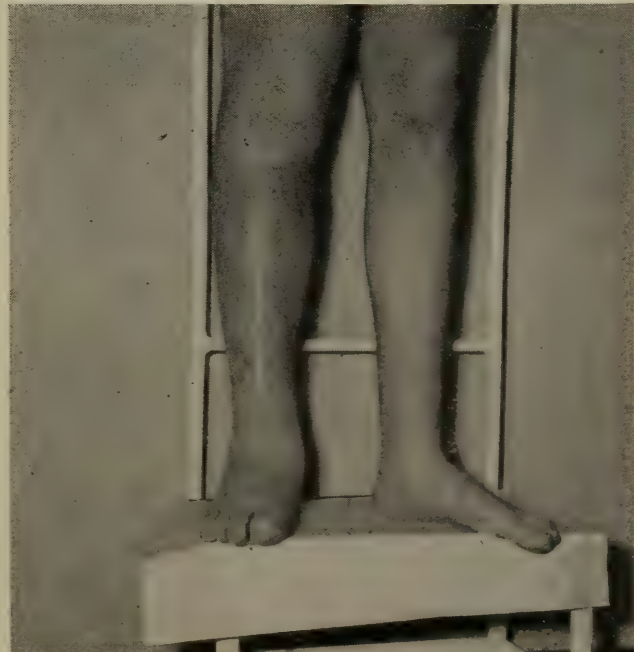


Fig. 7.—Recurrent lymphangitis Streptogenes. The patient has had episodes of chills and fever and leg inflammation for twelve years.

invasion of the subdermal lymphatic by streptococci. The portal of entry for the infection is often a crack in the skin of the foot. Trichophytosis is usually present.

Each attack of lymphangitis streptogenes renders the patient more susceptible to further attacks.

THE TREATMENT OF EDEMA AND LYMPHEDEMA OF THE LOWER EXTREMITIES

The edematous leg should never be passed by lightly. Edema tends to perpetuate and even aggravate edema. A few weeks of uncontrolled edema and a process of fibroblastic proliferation has already begun so that now the leg may well become the chronically indurated irreversibly swollen leg. Furthermore, a persistently edematous leg is extremely susceptible to recurrent infection of the subdermal lymphatics—a condition known as lymphangitis streptogenes. So all acutely edematous legs, whether slightly or greatly swollen, should be treated energetically from the onset while the edema is still reversible. The edema should be controlled for many months until the swelling tendency is overcome. A discussion of the treatment of the more important types of edema and lymphedema follows.

LEG EDEMA (EXCLUSIVE OF LYMPHEDEMA)

Varicose Edema

Peculiarly the eradication of varicosities will relieve only the mildest cases of leg edema. It is important not to promise the patient that fixing his veins will stop his leg swelling. The proper procedure is to perform the usual high saphenous ligation, strip the varicosities to the knee and perform a modified Kondoleon procedure from knee to ankle. The Kondoleon phase of the operation removes the remaining varicosities, interrupts the perforator veins and removes the water-logged subcutaneous tissue.

Ischemic Edema

An extremity that has so little blood supply that it is painful day and night and persistently edematous, will invariably have to come off.

LYMPHEDEMA

Non-Inflammatory Lymphedema:

Congenital Lymphedema

The multiple stage modified Kondoleon procedure, placing normal skin on normal muscle, remains the accepted management.

Adolescent Lymphedema (Lymphedema Praecox)

All we have to offer is an adequate support. The patient must accept the principle of giving her skin a lift with a strong elastic stocking or bandage for life. Otherwise, not only will her condition get worse but she will be subject to recurring episodes of lymphangitis streptogenes. Should the lymphedema pass beyond the pitting stage, a modified Kondoleon procedure may well be performed. Lymphedema secondary to malignant disease rarely responds permanently to treatment. But Roentgen therapy to the invaded lymph nodes may often give temporary relief.

Idiopathic Lymphedema

The condition is no respecter of age but most of our cases have been very young people, often children and usually the female sex. *Case Report:* A 26 year old Navy wife one hot summer day observed that her foot was swollen. Over a period of 15 months, the swelling recurred during the day and receded during the night. The Navy performed a lumbar sympathetic ganglionectomy with no improvement. She has responded well to the constant wearing of a primary bandage over which has been placed elastoplast support. She has consented to an experimental procedure which I hope will be practical for her and other similar cases—that is, the application of an internal skin lift rather than an external support. We will place under the skin,

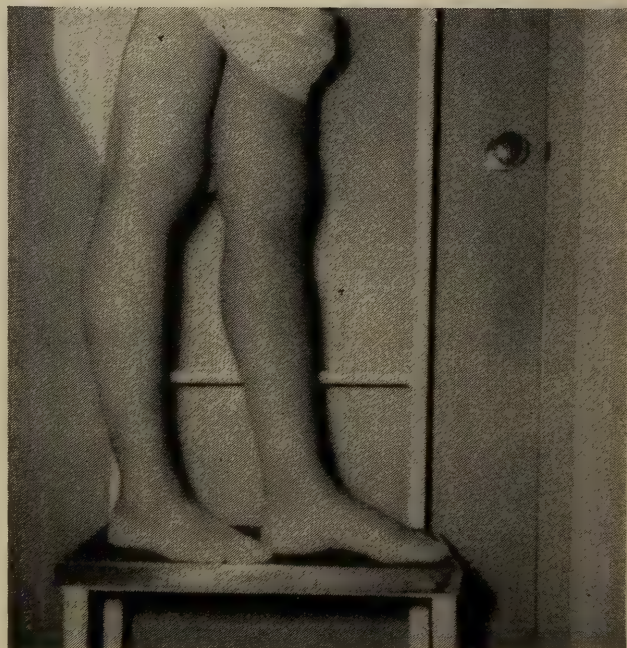


Fig. 8.—Idiopathic lymphedema of the left foot.

after removing the edematous fatty subcutaneous tissue, a Cutis graft, in the hope that this graft will contract down and stop the edema tendency. Should the swelling involve the leg, we might perform a Kondoleon procedure from knee to ankle and apply a subcutaneous Cutis graft over the foot.

My program for a mild or moderate case of idiopathic lymphedema is as follows: ammonium chloride—grains 15—after meals and at bed time for 5 days a week, followed by mercurhydrin by mouth or by hypodermic for 2 days a week; support of the leg with an Ace bandage or an elastoplast bandage or Unna boot, depending on the difficulty of control of leg swelling, elevation of the foot of the bed 12 inches during the sleeping hours, a rest period during the middle of the day in a similar position, and moderate restriction of fluid intake and salt. As trite as this program seems, it will often restore the lymphatic circulation to compensation so that the patient will be at least temporarily cured. These cases are usually encountered only during the summer months, the increased permeability of the hot days causing decompensation of the lymphatic system. If compensation can be restored by the methods outlined, the cases will remain compensated the rest of the year.

TRICKS OF THE TRADE

Diuresis. Marked diuresis tends to abstract fluid from the tissue space and also increases tremendously lymph flow. This has been proved repeatedly in animals. It is well not to think disparagingly of diuresis in the management of lymphedema. The lymphogogue affect is profound and furnishes us with a sound and practical method of helping the cases under discussion.

Elevation. There are many tricks of the trade in carrying out the measures which improve the lymph flow. Thus, true elevation of lymphedematous leg really means elevating the foot as high as the neck because after all the lymph has to get back into the venous system through the thoracic duct at the neck level. For bed rest, there must be shock blocks under the foot of the bed or a kitchen chair, not simply pillows under the knees. Twelve inches of elevation is average but greater heights may be required. For bedside sitting the leg must be raised above the hip level. A foot stool is inadequate unless especially high. How often does one see a patient rolling around the wards in a wheelchair with mark-

edly edematous feet! If they spill some water on their dinner tray in the same position, one would surely see the water fall to the lower end of the tray. I have restored many legs to lymph compensation by simply raising the legs higher and higher.

Compression. Adequate compression is also often wanting. In the pitting stage, the leg swelling is always reversible. Patients tend to get hold of bandages with no elasticity at all or to continue to use their bandages after the elastic element has gone. When one method of compression fails, another will do the job. If one elastic bandage will not hold down the edema very well, an Unna paste boot from toes to groin will often relieve the edema when bandages have failed. Or the change from an Ace type of bandage to a strong Davol rubber bandage may succeed where other types have failed. One can always squeeze water out of a sponge. When a lymphedematous leg swells in spite of support, it simply means that the support has not been put on early enough in the morning before the tissue spaces became distended. Another explanation is that the support has been too weak.

There are tricks also in obtaining compression where most needed. For a swollen ankle, the insertion of a pad of sponge rubber underneath the elastic support will often rid this area of persistent edema. A simple change from the usual supportless high heeled shoe to an Oxford type may make the difference between failure and success.

Massage. Massage is an excellent method of increasing lymph flow and is entirely safe in the non-inflammatory group under discussion.

Exercise. We often remind the patients that the motor of the lymph circulation is motion and that they must move their feet up and down when they stand still and walk energetically. Another good form of leg exercise consists of bicycling exercises with the legs entirely overhead.

The Cervix. And, lastly, one must not forget that in this group of cases, which are usually girls or young women, there may be a factor of central lymphatic obstruction from infected lymph glands, secondary to cervicitis.¹ Cervicitis should always be corrected in young girls with lymphedema.

ACUTE INFLAMMATORY LYMPHEDEMA

The tubular lymphatics are known to thrombose and obliterate just as do the veins. *Thus the need*

arises for rapid anti-coagulant therapy in the acute phase of all inflammatory lymphedemas. It is equally important to control leg swelling and to institute promptly measures aimed at restoring the extremity to its normal size. The tissue fluid of acute lymphedema is characterized by its high protein content which acts as a culture medium for fibroblastic proliferation. Each day that the limb is allowed to remain lymphedematous means a greater possibility of permanent lymphedema and eventual fibrosis—the chronically indurated leg.

Traumatic Lymphedema. Bed rest is instituted with the foot of the bed elevated on shock blocks 12 inches high, warm compresses are applied, and rapid anti-coagulant therapy begun. Acute inflammatory lymphedema, as a result of local infection, is handled similarly plus anti-biotic therapy. Occasionally x-ray therapy is used for the slower resolving lesions and the acute regional lymphadenitis.

Acute Lymphangitis Streptogenes. We paint the inflamed skin with 10 per cent silver nitrate, apply voluminous warm compresses of one to ten thousand silver nitrate or boric acid solution, elevate the leg, give anti-biotic therapy in the form of penicillin or Terramycin and as in all inflammatory lymphedemas institute rapid anti-coagulant therapy. *The acute allergic lymphedemas*, such as "Id" reactions from over treatment of a local dermatitis or allergic dermatitis from local fungus infection, respond well to ACTH and Cortisone.

Thrombophlebitic Lymphedema. In the acute stage, the edema is of the lymphedematous type because the proximal tubular lymphatics are obstructed as they course in the distended vascular sheath in the groin. In the chronic stage, the swelling is of the lymphedematous type because the proximal tubular lymphatics are obstructed within the scarred vascular sheath in the groin and the local lymphatics in the lower leg are destroyed by a fibroblastic proliferation. The management of acute iliofemoral thrombophlebitis is fully documented—bed rest with the leg well elevated, voluminous warm compresses from toes to groin, rapid and effective anticoagulant therapy and para-vertebral novocaine blocks of the second, third, and fourth lumbar sympathetic ganglia until the fever subsides and leg swelling disappears. Please note that I have not included anti-biotics, especially penicillin. These cases are rarely of bacterial origin and such therapy is a waste of medicine

and money. Prolonged bed rest is contra-indicated. The thrombus heals *in situ* in 48 to 72 hours and, providing anti-coagulant therapy has been energetic, no new thrombi should form. The average case should be ambulatory in 8 to 10 days.

During the convalescent stage, detailed attention is given to avoid the recurrence of leg swelling. The patient continues to sleep with the foot of the bed elevated twelve inches. When sitting, his leg is on a chair plus a pillow so that his foot is almost as high as his clavicle. Nothing is more pernicious than to have the patient riding around in a rolling chair. His leg will invariably be slanting downward and swell again. Adequate compression of the leg is maintained by Ace No. 8 bandages. Lymph flow is stimulated by diuresis. Adequate compression is maintained for 8 months to a year. The patient is given written post-thrombophlebitic directions outlining his new way of life.

TABLE IV

CARE OF THE POST-THROMBOPHLEBITIC LEG*

1. Wear your elastic stocking or elastic bandages from the time you get out of bed until you retire, with the exception of bath time. The stocking should be renewed every three months, and it is best to have two stockings that can be alternated for cleaning purposes. If bandages are used, have several on hand and use a different one each day and be sure that they will have their elasticity.
2. Do not stand for more than thirty minutes without sitting down for fifteen minutes and elevating the leg on another chair. When standing, get into the habit of flexing the toes in your shoes and frequently rising on tip toes.
3. Plan your day so that you can lie down for two to three half hour periods and elevate your leg to a 45 degree angle. The back of a small straight backed chair is useful for this purpose.
4. Whenever you sit down, elevate your leg on a foot stool, chair or sofa. Avoid allowing the leg to dangle motionless.
5. At night raise the foot of the bed on blocks about six inches.
6. Avoid irritation to the involved leg, especially in respect to sunburn.
7. Be extremely careful to prevent bumping, bruising, or scratching the affected leg.
8. Do not drink excess fluids or take excess salt in foods.
9. Remember that the motor of the leg circulation is motion. Raise up and down on the toes 10 times, two or three times a day preferably with shoes off.

EUGENE L. LOWENBERG, M.D.

*Modified instructions of Luke, "The New Way of Life", for the Post-phlebitic Leg, *Canadian Medical Association Journal*, 61:270-275, 1949.

CHRONIC LYMPHEDEMA AND THE "INDURATED LEG"

The process results from mismanagement of or repeated episodes of traumatic lymphedema, local inflammatory lymphedema, recurrent lymphangitis streptogenes, thrombophlebitis in varicose veins, ilio-femoral thrombophlebitis. In fact, any uncontrolled lymphedema—even congenital lymphedema and lymphedema praecox over a period of years—may produce such a leg. Chronic leg ulcer is a frequent concomitant of the legs under discussion.



Fig. 9.—Bilateral post-thrombophlebitic leg ulceration and induration.

Medical Management. There are instances in which the pathology is borderline or the age of the person or other factors contra-indicate surgery. Some evaluation of the opportunities for improvement on medical management can be obtained by noting what per cent of the lymphedema is pitting much and what per cent is hard and irreversible and how such recession of the swelling occurs during bed rest at night. A further important factor is the willingness of the patient and the ability of the patient to lead the post-thrombophlebitic life. Medical management may meet with surprising success in instances of post-thrombophlebitic lymphedema of short duration. Here para-vertebral novocaine blocks of the sym-

pathetic ganglia are remarkably effective even several months after the acute episode. We usually hospitalize the patient for a few days, elevate the foot of the bed high, apply compression and institute dehydration and diuresis. Usually the leg swelling rapidly subsides. We then perform para-vertebral novocaine blocks once to several times until the residual leg swelling is overcome. The lymphatic circulation has now been restored to compensation and with good care can be so maintained. It must be



Fig. 10.—Six weeks post-operative. The skin, subcutaneous tissue, and fat have been completely removed from each leg and the legs resurfaced with normal skin or normal muscle.

clear to such a patient that his life is forever one of elastic support for the leg.

Surgical Management. For a number of years, I have applied a modified Kondoleon procedure for chronic indurated cellulitis. The principles involved are the removal of the lymph soaked subcutaneous tissue and fascia and the resurfacing of the leg with normal skin resting on normal muscle. Any co-existing venous pathology is handled simultaneously by ancillary procedures. It is axiomatic that no matter how horrible a leg appears from venous or lymphatic system pathology, there is a normal leg underneath at the muscle level and with proper surgical management such a leg can be restored to relative normalcy. The surgery to be performed is evaluated by a pre-operative estimation of the limits of the existing damaged skin, the extent of the underlying subcutaneous tissue induration, the presence

TABLE V
AUTHOR'S SURGICAL PROCEDURES FOR CHRONIC
INFLAMMATORY LYMPHEDEMA (THE INDURATED LEG)*

Surgical Procedures	Indications
1. Simple removal of the indurated subcutaneous tissue and fascia by a modified Kondoleon procedure.	1. When the existing skin is normal and no serious venous pathology exists.
2. High saphenous ligation and a stripping procedure to knee with a modified Kondoleon procedure from knee to groin including removing the great saphenous system and perforators from knee to groin.	2. Where varicosities complicate the picture.
3. A saphenous ligation and stripping, a superficial femoral or popliteal ligation, a Kondoleon-like procedure.	3. For the post-thrombophlebitic state.
4. The same procedure plus excision of all damaged skin plus resurfacing the leg with a split thickness skin graft placed on normal muscle.	4. Where skin pathology exists.
5. The same procedure plus excision of the ulcer, its underlying bed and fascia.	5. Where post-thrombophlebitic ulceration exists.
6. The same procedures plus lumbar sympathectomy.	6. For indications previously mentioned, and causalgia, excessive sweating, and ischemia.

*The Surgical Management of Chronic Indurated Cellulitis of the Lower Extremity (the Indurated Leg), *Surgery*, 28:832-850, 1950.

of varicose veins, the evidence of an incompetent recanalized femoral vein, the presence of an ulcer, and, finally, the evidences of arterial spasm such as coolness and sweating. The surgical procedures employed are outlined in Table V. The residents call procedures 3, 4, and 5 "All American," and I guess rightly. The procedures are radical and there is a lot to be done. They require a good working team but the results are excellent. All existing pathology is effectively corrected and a chronic invalid is restored to relatively normal life.

Superficial Femoral (or Popliteal) Vein Ligation and Lumbar Sympathectomy. Some authors maintain that superficial femoral or popliteal ligation alone

will improve the lymphedema of this type of leg. With this I entirely disagree. I do not believe that any type of removal or ligation of veins will effectively help leg swelling. I include the deep vein ligation in my "All American" procedures for two reasons: one, to stop the venostasis in the erect position, and, two, to lessen the chance of post-operative pulmonary embolism.

The place of lumbar sympathectomy has similarly been somewhat controversial. Lumbar sympathectomy alone will not do anything for post-thrombophlebitic leg swelling that one or several paravertebral novocaine blocks will not do. I know of no type of lymphedema in which you can promise the patient that the leg swelling will disappear after a lumbar sympathectomy. It does have its place but only for specific indications such as causalgia, increased moisture, arterial insufficiency.

SUMMARY AND CONCLUSIONS

1. The edematous leg should never be passed by lightly, for edema tends to perpetuate and even aggravate edema. All acutely edematous legs should be treated energetically from the very onset.
2. Eradication of varicosities will only relieve the mildest cases of associated edema. When considerable edema exists, vein ligation and stripping should be accompanied by a Kondoleon procedure on the lower leg.
3. The lymphedema praecox case, treated non-surgically, must accept the principle of giving her skin a lift for life by wearing a strong elastic support.
4. The lymphatic system of the lower extremities has practically no reserve capacity and readily becomes decompensated. Many cases of idiopathic lymphedema can be so explained. Measures which act as lymphagogue or otherwise tend to restore lymphatic compensation are (1) elevation, (2) compression, (3) exercise, (4) massage, (5) restriction of salt and water, and (6) vigorous diuresis.
5. Diuresis is a true and powerful lymphagogue—not merely a dehydrating process. It is well not to look too disparagingly upon diuresis in the management of mild lymphedema.
6. There are many tricks of the trade in restoring a limb to the non-edematous state: (1)

higher elevation of the part, (2) stronger compression, (3) sponge pressure, (4) increased active leg exercises, (5) a change to shoes offering greater foot support.

7. Mild unexplained lymphedema in women may be secondary to cervicitis. Ascending infection of the pelvic lymph nodes causes central lymphatic obstruction of the leg lymphatics. In

such instances, clearing the cervix may cure the lymphedema.

8. Vigorous anti-coagulant therapy is an essential part of the treatment of all types of inflammatory lymphedema—to limit the destruction

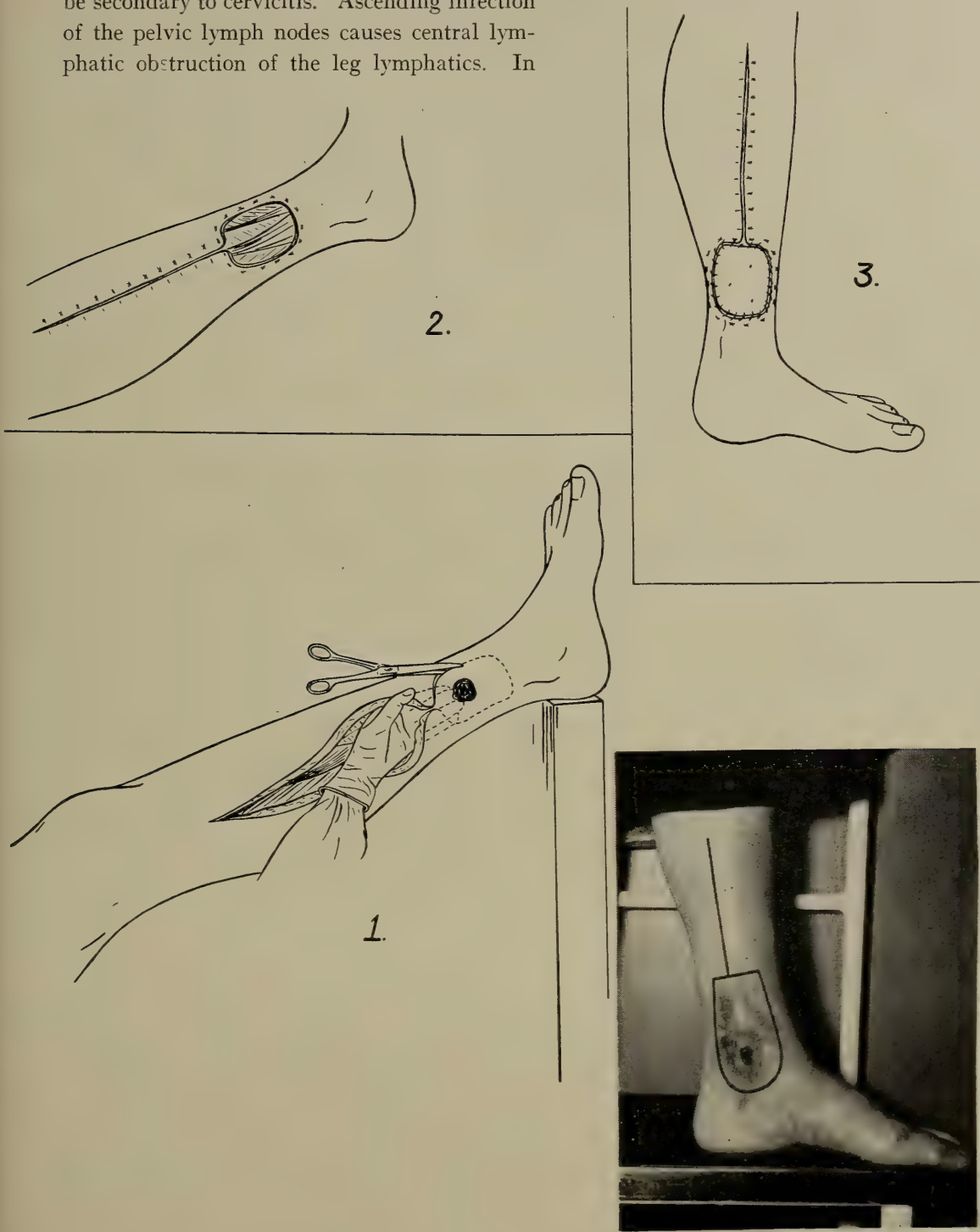


Fig. 11.—Surgical management of chronic lymphedema and leg ulceration. Reprinted from Surgery 28:832-850, 1950. Lowenberg, "The Surgical Management of Chronic Indurated Cellulitis of the Lower Extremity (the Indurated Leg)."

- by thrombosis of the lymphatic channels.
9. Acute allergic lymphedema responds well to ACTH and Cortisone.
 10. The leg swelling of acute ilio-femoral thrombophlebitis is lymphedematous. The mainstays of treatment are anti-coagulant therapy and paravertebral blocks of the lumbar sympathetic ganglia. Prolonged bed rest is contra-indicated. Penicillin has no value.
 11. The patient who has had ilio-femoral thrombophlebitis should lead a "post-thrombophlebitic life" for 8 months to a year. Should lymphatic circulation decompensation occur several weeks or even several months after the acute episode, vigorous medical measures will restore lymph circulation compensation and relieve the lymphedema. Para-vertebral novocaine blocks of the lumbar sympathetic ganglia are effective measures in the medical management even at this late date.
 12. Lumbar sympathectomy is of limited value in chronic lymphedema. Simple para-vertebral novocaine blocks will do as much for the leg swelling. But lumbar sympathectomy is indicated for causalgia, excessive perspiration, and ischemia.
 13. When chronic inflammatory lymphedema has produced the "indurated leg" only surgical measures will effectively help the patient. We perform several types of composite one stage operations, most of which have as their basis the removal of all pathologic skin, subcutaneous tissue, fascia, the simultaneous correction of existing venous pathology, and the resurfacing of the leg with normal skin on normal muscle.
 14. Superficial femoral vein or popliteal vein ligations alone will not cure post-thrombophlebitic lymphedema. We include these measures in our composite operations only to relieve venous stasis and to prevent pulmonary embolism.
 15. No matter how horrible a leg appears from venous or lymphatic pathology, there is a normal leg underneath—at the muscle level. With proper surgical management such a leg can be restored to relative normalcy.

100 Medical Arts Building.

New Interns Appointed.

In the past the short supply of new interns caused much confusion in attempts of students and hospitals to get together. Some hospitals exerted a variety of pressures to obtain the interns they needed. Students, anxious not to be left out of choice positions, frequently made unwise or hasty decisions.

In an article in the May 1952 issue of *The Journal of Medical Education*, Dr. F. H. Mullin, Dean of Chicago Medical School and chairman of the internship committee and John M. Stalnaker, director of studies for the Association of American Medical Colleges, report on the results of the first year's matching. They express the opinion that the plan may be even more fully utilized when its success is generally known.

Mr. Stalnaker quotes the dean of one medical school, who said, "Never before in my 17 years of

experience have internship appointments been handled so smoothly."

In March of this year punched rating cards were run through a machine which automatically matched hospitals and interns, in most cases with their first choices.

Approximately 95 per cent of this year's interns participated in the plan. Some 98 per cent of the hospitals offering internships were participants.

The National Interassociation Committee on Internships is composed of representatives from the Association of American Medical Colleges, the Council on Medical Education and Hospitals of the American Medical Association, the American Hospital Association, the American Protestant Hospital Association, the Catholic Hospital Association and the medical services of the Federal agencies offering internships.

SUBTYPES OF MIGRAINE*

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and

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Migraine is a term which applies to a type of recurrent headache. It appears at variable intervals, is apt to appear in several members of a family, is frequently preceded by visual disturbances and accompanied by nausea and vomiting. It is almost impossible to offer an entirely satisfactory definition of migraine as there is no general agreement about the scope of the term. Some include in migraine all cases of chronic recurrent headache, whereas others confine the term to the pattern of headache just described. The latter group is a relatively smaller group in which there is tendency to hemicrania preceded in most instances by a prodrome or an aura and being accompanied at the conclusion of the headache by nausea and vomiting. Insufficient attention, however, has been drawn to the many cases of migraine which depart from the conventional or classical pattern described in most textbooks. They are frequently mentioned as variants or equivalents or unusual types. Yet in our experience they are almost as common as the conventional type which is preceded by visual disturbances.

These symptomatic departures from classical migraine are frequently not recognized as part of the migraine symptom complex because other phenomena intervene and make for confusion and faulty interpretation of the disorder. The relative frequency of these variants and subtypes is almost as common as classical migraine and warrants more complete description. The material which formed the basis of this paper was collected in less than a year from a series of cases who were seen because of recurrent headache.

By way of short review, it is well to remember that migraine is a pattern of dysfunction within the nervous system manifested as mood and body disturbances both painful and non-painful. The typical migraine attack is only one aspect of a diffuse disturbance of function occurring periodically. Other bodily disturbances may be accentuated and become the basis of the major complaint, with reduction or

accentuation of preheadache and headache phenomena.

The pathological physiology concerned in the migraine syndrome is practically universally agreed upon as being a wave of initial local vasospasm of cerebral arteries or of retinal vessels followed by vasodilator manifestations. Electroencephalogram recordings from the visual cortex, in two instances, were reported by Engel and his associates as showing transient focal abnormalities in the e.e.g. tracings corresponding to the location and duration of the focal neurological signs. These cases were individuals who had typical scintillating scotoma, hemianopsia and hemicrania. These findings are strong in support of evidence that migraine reactions are mediated through vascular mechanisms. The circulatory phenomena act as temporary irritant or paralyzing agents on the functions of cerebral areas. The two mechanisms may overlap but usually there is a free interval before headache appears. The possible clinical pictures and entire clinical picture is more readily understood if one keeps in mind the fact that the disturbance of varying cortical and subcortical areas for specialized function are responsible for the symptoms noted.

As already mentioned, a very common type of migraine is that in which there is vasospasm or vasodilating phenomena progressing from the occipital lobe with scotoma, flickering or flashings of light, revolving circles, display of colored lights or fortification spectra. These are referable to one or the other occipital lobe and hemianopia in the corresponding visual field develops and precedes the typical hemicrania type of headache. If one considers this same type of disturbance of function arising in other areas of the brain the clinical expression has a wide scope of symptom possibilities that depart from this pattern of headache and it is with these types that we wish to concern ourselves in this discussion.

If vasospasm or dilation involves the parietal lobe there will be resulting paresthesia in the nature of numbness, pins and needles sensation, or reduction of sensation of parts of the opposite side of the

*Read before the annual meeting of the Medical Society of Virginia, at Virginia Beach, October 7-11, 1951.

body. These individuals then have a prodrome or an aura in which the first manifestation is not visual but is one of subjective sensory disturbances, frequently about the face, cheek or in the fingers. The conventional pattern then follows in which the sensory disturbance may extend to one entire side or it may remain localized, then subsides and after a short free interval of 20 to 45 minutes is followed by typical hemicrania, nausea and vomiting.

In other instances the motor area is the first to become affected with a resulting transient paralysis, usually of an arm, lower face, and in one of our patients, a complete hemiplegia.

When the spread of the mechanism becomes generalized or involves areas for specialized functions, such as consciousness, speech, motor skill, taste, hearing, coordination, and of individual cranial nerve mechanisms, a wide variety of confusing symptoms and signs can appear. Loss of consciousness, clouding of consciousness, fugue like states may appear if thalamic and hypothalamic mechanisms are involved. One of our cases, seen recently, gave a history of migraine headaches ever since the age of onset of menstruation. With the appearance of her menopause ten years ago, her headaches changed to periodic seizures of another character. She began to have episodes of dizziness, unsteadiness in walking, dysarthria and aphasia that were very short in duration. In some of these there would be sudden loss of consciousness—up to 20 or 30 minutes—without convulsion, then unsteadiness in walking and some speech disturbance. These attacks have been recurring for ten years and the migraine element of headache has become less intense and less frequent. Hypothalamus participation in the migraine attack is also demonstrated by the hyperpyrexia and unexplained fever that frequently is part of the migraine seizure. Localization of the point of origin of almost all of the signs and symptoms can be made. When ophthalmoplegia occurs as the preliminary or pre-headache phenomenon the disturbances implicate the midbrain or mesencephalon. Recurrent cranial nerve paralysis, particularly those supplying ocular muscles, are seen. We have observed the recurrent appearance of Bell's palsy in two sisters, both of them afflicted with migraine. One other case has had 7 attacks of Bell's palsy of transient character in association with a migraine attack. Many of these cranial nerve palsies remain for several days after

the headache subsides. One of the sisters mentioned above now has a residual Bell's palsy. Facial neuralgias in the trigeminal area frequently accompany the headache and we have seen one patient whose preheadache symptoms included severe pain in the roof of the mouth, palate and pharynx on one side. She suffered typical migraine attacks from the age of 15 to 25, then had a quiescent period and then her headaches recurred 3 years ago, with a prodrome and aura consisting of throbbing in her head, buzzing ear sounds, pain in roof of mouth, palate, left side of nose and forehead, the pain coming on in severe waves every few hours, headache being constant. After bouts of headache she had a peculiar sensation of euphoria and excessive appetite. Tinnitus, roaring head noises, hissing sounds and gustatory phenomena ushered in the headache in other cases. Extreme vertigo with Meniere's like symptoms has been seen in a number of cases with typical migraine headache following. Vomiting in several patients initiated the attack but in most instances seemed to terminate the attack and implies that the medulla takes part in the vasomotor disturbance.

Temporal lobe localization is suggested by those cases having auditory phenomena and gustatory phenomena as aura and is also suggested by those cases in which there is receptive type of aphasia, the patient in the pre-headache phase being unable to either grasp what he hears or is unable to express himself adequately. Aphasia, alexia, agraphia of transient character have also been observed. Memory and recall are affected and are sometimes referred to as holes in the memory.

When the vasomotor disturbance arises in the region of the angular gyrus, a region between the parietal and occipital cortex, patients may have a very disturbing type of visual manifestation. In this instance the individual has as preheadache aura or phenomena a type of spatial disorientation, inability to properly orient himself in his immediate surroundings or to the primary directions, with confusion of right and left and defective appreciation of depth perception.

Cerebellar symptoms, such as ataxia, nystagmus, disturbance of equilibrium, have been very disturbing in two of our patients and in both instances appeared after the headache had developed. In another case the marked light-headedness, cerebellar ataxia in walking and blurring of vision occurred for

two days preceding each typical attack of migraine. More recently this lady developed loss of consciousness for ten-fifteen minutes in her attacks, this being followed by diplopia, slurred speech and marked loss of coordination and severe headache requiring opiates for relief. The entire attack often lasted for two or three days. Migraine as a child was typical—hemicrania, occipital to start with, and then involved one-half of head.

Fugues and psychomotor phenomena are very disturbing in some individuals, particularly if they occur in the preheadache period. We have observed several instances of this character. They are important for the psychiatrist to recognize and difficult for the neurologist to differentiate from psychomotor epilepsy. The fugues appear suddenly, precede or accompany the headache. They resemble the psychomotor attack of the epileptic but are never characterized by convulsion or by acts of violence or sadistic behavior. Usually the individual acts dull and stupid and rambles in speech in an inarticulate or irrelevant manner.

In some individuals there seems to be a parallelism or correlation with convulsions. The migraine-epilepsy relationship has frequently been referred to in literature and sometimes is called migraine epilepsy. Actually the number of such cases reported is relatively small. We have had a number of experiences where epileptics have gained control of their seizures, but where the seizures are still represented by recurrent, periodic migraine attacks which were then controlled by adding to the dosage of the anti-convulsant drug.

Recently attention has been called to abdominal migraine and abdominal epilepsy. The dominant preheadache aura and symptoms in these individuals are discomforts and pains associated with thoracic, abdominal or pelvic organs and cavities. Fitz Hugh noted precordial migraine or pain in 27 cases of a series of 880 patients with migraine. Attacks of tachycardia, dyspnea, precordial pain, epigastric distress or abdominal pain frequently associated with nausea and vomiting may be predecessors or accompaniments of the migraine attack.

In children these bouts of abdominal pain, nausea, vomiting and headache commonly terminate in sleep, following which the patient awakens feeling quite well. We and others reported a series of such cases admitted to a pediatric service for observation as

surgical abdominal conditions. One series of about 9 cases all had this pattern, had suspicious e.e.g. changes of epilepsy and 7 cases, within the next ten years, did develop epilepsy.

Urticaria, erythema, pallor, angioneurotic edema, watery nasal discharge, salivation, unilateral hyperhidrosis, and scleral congestion may accompany the migraine attack and imply involvement of the autonomic system just as the visceral neuralgias do or that the cortical representation for these functions has been irritated. Oppenheim described finding conjunctival and retinal hemorrhages and also reported the periodic occurrence of nosebleed with the headaches.

A close relationship has been observed in children between cyclic vomiting in infancy and periodic headache appearing later in childhood. In several of our cases the one condition seemed to have gradually replaced the other, the cyclic vomiter of childhood becoming the sufferer from classical migraine in childhood or adolescence.

Time does not permit us to recite other specific instances of the various symptom complexes encountered in the migraine picture which result in symptomatic departures. We do wish to call attention, however, to interesting interparoxysmal symptoms which many of the migraine sufferers may have between their attacks. There are tendencies to neuralgias, vertigo, tinnitus, psychic depression, gastralgia and also attacks of extremely sudden increased intestinal peristalsis with explosive bowel movements, spasms of yawning and sometimes sneezing. These are noted particularly in the older, longstanding cases.

The symptomatic range of migraine is therefore very wide and includes the interparoxysmal period. Rudimentary forms are at times hard to recognize as one or more than one of the characteristic classical migraine syndrome symptoms may be lacking. Severe cases can simulate cerebral disorder of a more serious kind, particularly cerebral thrombosis and multiple sclerosis. Others are frequently considered to be hysterical. It is worthy of note that many cases of migraine occur without the conventional onset with visual aura. Migraine is a disturbance of diffuse and local cerebral function, the areas involved being responsible for the particular presenting symptom. In our opinion any portion of the cerebral structures and integrated functions can take part and

it is our belief that this has not been adequately and fully emphasized.

Caution must be exercised in these subtypes or variants that one is not dealing with a symptomatic form of migraine in which typical migrainous seizures may appear, for a time, as the presenting and only manifestation of some definite disease of the brain or its coverings, notably intracranial neoplasms, cerebral vascular disease, nasal sinus disease and the epilepsies.

In conclusion, symptomatic departures from classical migraine exist but frequently are not recognized as part of the migraine syndrome. These variants include transient phenomena referable to other systems than those classically associated with migraine. These include aura referable to various systems and organs, paresthesiae, aphasia, alexia, agraphia, vertigo, cerebellar dysfunction, paralysis of cranial nerves, neuralgia, monoplegia, hemiplegia, visceral or abdominal angina and fugue states. Many of these manifestations emphasize the concept and hypothesis that vasoconstriction and/or dilation underlie these transient functional interferences with nervous system activity. Many of the features of these types of cases come out only if specifically inquired

about in obtaining the history in cases of recurrent headache.

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New Books.

The Tompkins-McCaw Library of the Medical College of Virginia announces the following new books which may be had by our readers under usual library rules:

- Advances in pediatrics. Vol. 5, 1952.
 Barron—Modern trends in physiology and biochemistry. 1952.
 Davidoff and Epstein—Abnormal pneumoencephalogram. 1950.
 Duncan—Changes in the adrenal ascorbic acid and cholesterol levels following acute alcoholic intoxication. 1952.
 Hahn—Manual of artificial radioisotope therapy. 1951.

- Haas—Practical and occupational therapy for the mental and nervously ill. 2nd ed., 1946.
 Henry—Extensile exposure applied to limb surgery. 1950.
 Latimer—Utilization of the tonic neck and labyrinthine reflexes for the facilitation of work output. 1952.
 Penick and Company—Bacitracin. 1952.
 Pottenger—The fight against tuberculosis. 1952.
 Recent progress in hormone research. Vol. 7. 1952.
 Riseman—P Q R S T. 3rd ed., 1952.
 Spitzer—Architecture of normal and malformed hearts. 1951.
 Talbot—Functional endocrinology from birth through adolescence. 1952.
 U. S. Atomic Energy Commission—Isotopes. A five year summary of U. S. distribution. 1951.
 Willard and Spackman—Occupational therapy. 1947.

STEROID HORMONES AND RHEUMATISM

Report of Two Cases of Rheumatoid Arthritis

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A significant and probably causative relationship between alterations in adrenal cortical activity and rheumatoid arthritis has long been contemplated by the present authors and has been strongly borne out by their recent therapeutic experiences as well as by others. The following two cases are therefore reported in this connection, the first having metastatic involvement of the adrenals (proven at autopsy) with rheumatoid arthritis and encephalomalacia, and the second having mumps and "acute infectious arthritis", which, however, we believe to have been based on gonadal involvement and hepatic dysfunction, with associated abnormalities of steroid hormone metabolism.

CASE REPORTS.

Case 1. H. C., a 59 year old, white male was admitted January 15, 1947. When he first entered the hospital, he was found to be dazed and incoherent. It was also noted that his ankles and fingers were swollen.

History: Two years before he had developed chronic bilateral subacromial bursitis. He was treated for long periods with physiotherapy and traction. During this time he was admitted to hospitals twice and was discharged with a diagnosis of chronic *subdeltoid bursitis; arteriosclerotic vascular disease, generalized osteoarthritis, paroxysmal auricular flutter.*

In 1946 the patient had an episode of pneumonia followed by spontaneous right pneumothorax. He recovered after two months of hospital treatment. During the past year he has had periods of memory loss and of confusion, disorientation and hallucinations. These have increased in severity.

Physical Examination: The patient was undernourished. He appeared chronically ill. Temperature was 98.6; pulse 60; respiration 24; blood pressure was 160 systolic and 90 diastolic; weight was 155 pounds. The lungs were normal to auscultation and percussion. The heart was not enlarged to percussion and no murmurs were heard. There was a

slow sinus arrhythmia. The abdomen was soft; liver, spleen and kidney were not palpable; no masses were felt. The prostate gland was normal. Reflexes were normal. There was marked limitation of motion of both shoulders, any movement producing severe pain.

Laboratory Data: The urine was negative on routine analysis. On January 16, 1947, the 17-ketosteroid excretion in the urine was 12.4 mg. in 24 hours, and on March 17, 1947, it was 2.8 mg. in 24 hours. The red blood count was 4,700,000. The hemoglobin was 87% of normal. The white blood count was 14,500. There were 80 per cent neutrophils, 15 per cent lymphocytes, and five per cent eosinophiles. On March 20, 1947, the white blood count was 24,000 with 80 per cent neutrophils, nine per cent lymphocytes, 11 per cent monocytes. Erythrocyte sedimentation rate was 80 mm. per hour and 87 mm. per hour Westergren method. The Wassermann test was negative. Sputum was negative for tubercle bacilli. Sputum cell block failed to show cells resembling carcinoma. Chemical examination of the blood disclosed: Glucose 98 mg. per cent; urea nitrogen 26.8 mg. per cent; serum cholesterol 197 mg. per cent; cholesterol esters 110 mg. per cent; total proteins 6.0 gm. with albumin 3.6 gm. and globulin 2.4 gm. per 100 cc. Examination of the spinal fluid revealed a protein concentration of 69 mg. per cent, and there were four lymphocytes per cc.

The electrocardiogram showed left axis deviation and auricular extra-systoles.

Roentgen-ray examination of the chest on admission showed an area of infiltration a half inch in diameter in left upper lobe. (Plate I) Further x-rays of chests taken between January 16 and March 27 continued to show this area. It was suggested that it might be neoplastic in character. X-ray of the skull was normal. Pneumoencephalograms revealed excessive air over the surface of the cerebral hemispheres. A diagnosis of cerebral atrophy was

made. Calcium deposits were noted in both sub-deltoid bursae in x-ray films taken of the shoulder. Hand plates showed changes typical of rheumatoid arthritis.

Course: During January the patient continued to be sluggish, semi-comatose, irrational and confused, although at times he was well oriented. In February this condition of episodic disorientation continued. He complained of pain in his arms, legs, shoulders and hands, and most of his other joints.

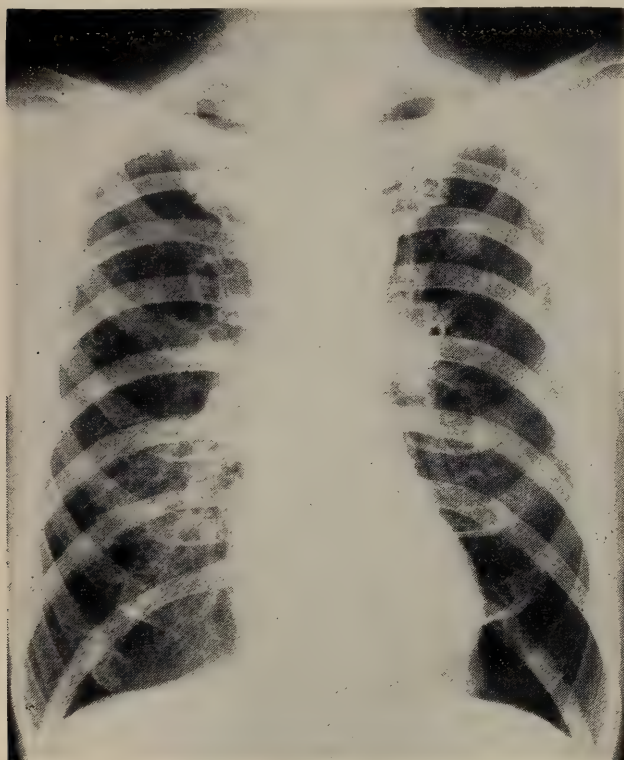


Plate I.

By the end of February these pains had decreased, and there was less pain than before on moving about. His therapy during these months had been testosterone and monomestrol daily, and demerol for pain. During the first week of March he developed pain in his left shoulder and leg. He was given three infusions of 250 cc. of 0.1 per cent procaine intravenously on alternate days. During the second week of March he complained of pain in his right leg and arm. He could, however, move his left leg more freely and later had less pain in right leg and left arm. By the middle of March he was able to get out of bed in a wheel-chair. His mental confusion continued unchanged. Later in the month the generalized pain returned. The testosterone and monomestrol administration was stopped. On March 27 his condition became very poor, and broncho-pneu-

monia developed. His temperature was 102 degrees, his pulse 144. He was given penicillin, but his course continued downhill and he expired March 29.

Necropsy: There was general malnutrition. There was fusiform swelling of interphalangeal joints of both hands, and the knee joints were fixed in 40 degree flexion. The mediastinal lymph nodes were enlarged. The right lung weighed 750 gm.; left lung weighed 550 gm.; and the secondary bronchii of the latter showed tumor tissue. The liver weighed 2,500 gm. and was congested; spleen weighed 325 gm. and was grossly normal. The right adrenal weighed 75 gm., measured 7 by 2.5 cm., and a discrete white tumor nodule, 4 by 2.5 by 5 cm. replaced most of the gland; the left adrenal weighed 175 gm., measured 8 by 7 by 3 cm., and was entirely replaced by tumor tissue. The brain was normal. Microscopic anatomy; the right lung showed broncho-pneumonia of the right lower lobe and healed tuberculosis in the apex. There was metastatic bronchial carcinoma of the adrenals (Plate II).

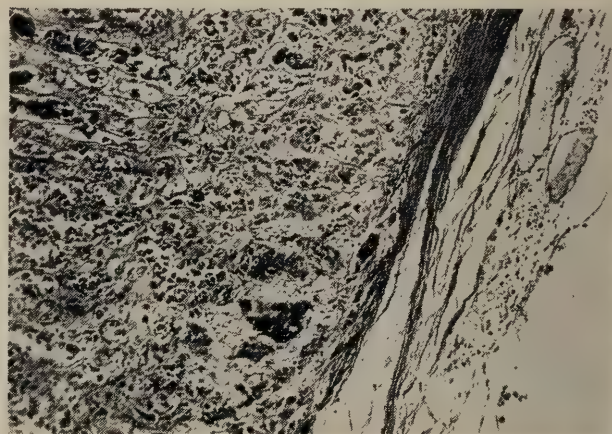


Plate II.

Anatomical diagnosis: Bronchogenic carcinoma, left upper lobe, with metastases to mediastinal and para-aortic lymph nodes and to both adrenal glands. Broncho-pneumonia, right lower lobe. Healed tuberculosis, apex of right lung. Rheumatoid arthritis.

This case is presented not because it is proposed that there is a direct association between carcinoma of the lung and rheumatoid arthritis, but to show the relationship of change in activity of the adrenal cortex to the cause and course of rheumatoid arthritis. There may be, however, some relation between carcinoma of the lung and pulmonary osteoarthropathy. Sometimes cases of carcinoma of the lung present changes that point to a diagnosis of rheumatoid arthritis.¹ This was noted in the case of a male patient

in whom, at post-mortem, there was discovered an adenocarcinoma of the lung with metastases to the adrenal cortex. The 17-ketosteroid excretion had been 8.2 mg. in 24 hours.²

Case 2. The classification of arthritis occasionally includes, under the terminology of arthritis due to specific cause, the arthritis of mumps. This has been called a virus arthritis, and such a case is presented below.

A search of the literature reveals only one comprehensive article on this subject. This was published as a thesis in France by Maisondieu in 1924.³ In the 2668 cases of mumps reviewed, he found arthritis in 0.44 per cent. We feel that the case so reported indicates that perhaps the severe rheumatoid arthritis resulted from the testicular involvement and not from a virus directly. There is also the possibility that hepatic involvement might so interfere with steroid metabolism as to have produced the arthritis.

The patient, J.D., age 34, a married physician with two children, was admitted on January 20, 1935, complaining of pain and swelling in both parotid regions, of one day's duration.

His past history contained two significant features: (1) At the age of 14 he had been confined to bed for 2 or 3 days with pain and swelling in left great toe. (2) He had had from time to time a rather marked bradycardia (rate 40 to 50) following a blow over the precordium. On occasions there was electrocardiographic evidence of a sino-auricular block. He had, however, been unusually healthy and very active.

His admission pulse was 56, blood pressure was 126/72. The leucocyte count was 7,550. There were 61% polymorphonuclears.

On January 22, his left testicle became painful. On January 23, he became nauseated and momentarily lost consciousness; he complained of severe headache and intense nausea. During the night that followed, his temperature by mouth reached 102.4 degrees. On January 24, nausea and headache persisted, and he began to vomit. He could retain only orange juice, Vichy water, and small amounts of champagne. There was some stiffness of the neck. There were abdominal pain and tenderness. The spleen was thought to be palpable. The parotids were less swollen. The pulse varied between 80 and 100, and the blood pressure was 134/90. The

rhythm was regular and there were no murmurs. The electrocardiogram showed markedly prolonged PR conduction time (0.4 sec.).

On January 26, the patient again fainted following an enema. After this, carpopedal spasm was present in both hands. The left hand remained in the "main accoucheur" position for several minutes. The Chvostek sign was present and very active. His blood serum calcium at this time was 8.7 mgs. per 100 cc. The blood pressure was 144/80. He was given glucose, saline and calcium gluconate intravenously. This tetany was thought to be due to alkalosis induced by the low chloride consumption and the high alkaline salt intake.

On January 27 the left testicle became enlarged and very tender, while the right testicle had been asymptomatic after the second day of the disease. There was also severe pain in the right side of the abdomen and in the epigastrium. The abdomen was rigid, especially on the right side. That evening the patient complained of numbness in the right hand and was apprehensive of another attack of tetany. Forty-five minutes later he developed a chill which lasted about fifteen minutes. He became pale and cyanotic. The Chvostek sign was not so active as on the day before. His serum calcium was 8.8 mgs. per 100 cc. and the phosphorus was 4.1 mgms. per 100 cc. The temperature rose to 104.4 degrees.

By January 28, the swelling in the parotid glands had almost disappeared and the submaxillary glands were no longer palpable. There was now no stiffness of the neck. The pain in the epigastrium was still present. His blood pressure was 150/80.

On January 29, following codeine administration, his respirations fell to 11 per minute. It was thought that there was involvement of the central nervous system.

By now the parotid swelling had entirely subsided but the opening of the left Stenson's duct was still red.

On February 1, his temperature was normal and he began to feel well again. His pulse remained between 55 and 60 per minute.

On February 3, he complained of soreness deep in his throat and of an irritating rash on the knees and arms. The rash at first had the appearance of small petechial areas. A throat culture showed alpha hemolytic streptococci. No beta organisms were found.

About noon on this day, the 14th day of the disease, he began to complain of pain in his shoulders and back. This became steadily more acute and by 3 P.M. it was described as unbearable. The maximum intensity was in both shoulders. The arms could not be raised above 20 degrees. The muscles of the neck and back were also involved. The weight of the bed clothes or the pressure of the bed on his back was excruciatingly painful. There was exquisite tenderness over both acromial processes, with doubtful or slight swelling in the region of tenderness. He was given aspirin, 15 gr., and codein, 1 gr.

On February 4, there was swelling over both shoulder joints in the region of the acromio-coracoid bursa. There was no redness or heat. Any motion was acutely painful. The rash was still present on the inner sides of the knees and elbows. The blood proteins were low and there was a reversal of the albumin-globulin ration. The white count was 13,000 with polymorphonuclears 63%. The sedimentation rate was 31 mm., the temperature 98. By February 5, the testicular discomfort and swelling had entirely gone, and the pain in the shoulders was less, but motion of the fingers of the left hand began to be painful. Later in the day, both hands became involved and there was typical fusiform swelling of the finger joints. The rash, which was follicular in distribution, began to spread. It had the appearance of a dyschotic eczema. It was suggested that the patient did not have rheumatic fever and that the rash was a folliculitis. It is interesting that the type and appearance of the rash varied somewhat from day to day.

By February 10, he seemed much better but the rash was more extensive. The possibility of a bromide rash was considered, but there was little evidence for this. It was thought by some that the rash was a toxic dermatitis.

On February 13, the right wrist and right knee became quite painful. There was no redness, tenderness or heat. The right shoulder was still slightly painful, but the pain disappeared by the next day and he was allowed out of bed. Sedimentation rate was 11 and blood pressure had returned to 126/78. He was discharged on February 18, with the following diagnosis: (1) Mumps (2) Acute pancreatitis (3) Acute infectious arthritis (4) Acute orchitis (5) Eczema (6) Cardiac diagnosis unknown. En-

cephalitis was not proven. He did not regain complete use of his right shoulder until four weeks later. At the present writing, fourteen years later, he is entirely well. There has been no return of the arthritis. The electrocardiogram is normal, the blood pressure is 128/84 and the pulse is 76.

The severe nausea and vomiting which preceded the attack of acute arthritis, the very foul stools, and the abdominal pain may have been due to hepatitis as well as pancreatitis. There is no history of jaundice in this case, although it is fairly common in patients with mumps. The low total protein and the abnormal albumin-globulin ratio are suggestive of liver damage.

It is not thought that he had rheumatic fever for the following reasons: (1) Alpha hemolytic streptococci only were found on culture from mild pharyngitis. (2) Fusiform swelling of fingers was present. (3) There was a poor response to salicylates. (4) There were no typical EKG changes, other than the prolonged PR interval which was present before the attack. (5) No subsequent attacks occurred in later years. (6) Evidence of hepatic disturbance was present. (7) Involvement of shoulders was predominant. (8) Sedimentation rate returned suddenly to normal. (9) Recovery was rapid. (10) At the time of the arthritis there was no elevation of temperature. (11) There was no evidence of anemia. (12) The arthritis was severe. (13) There were no cardiac murmurs.

It is to be regretted that we were unable to determine 17-ketosteroids on this patient. In the presence of the severe arthritis, both the 17-keto and the 11-oxy steroids levels were most probably changed. The hepatitis, too, may have contributed to this dysfunction.

These two cases are reported because it is felt that severe arthritis in the first instance is associated with involvement of the adrenal cortex, while, in the second, it may be a result of gonadal involvement and hepatic dysfunction.

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ACUTE PORPHYRIA AND ONE FALSE INITIAL DIAGNOSIS DUE TO THE PREVIOUS TAKING OF PYRIDIUM*†

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Porphyria is not a common disease. That it occurs more frequently than it is diagnosed generally is indicated by the number of relatives of some patients in whom there has been chemical evidence of the abnormality associated either with mild symptoms or with none at all.

Its recognition is important because it may imitate almost any abdominal or neuropsychiatric disease. Because of it, many patients have had useless operations. One of our four patients had had an appendectomy. Another previously had been diagnosed acute pancreatitis. The diagnosis usually is easily made by having the condition in mind, observing the red to mahogany-colored urine when it is fresh or after it has stood, and the performance of a simple chemical test, the significance of which will be discussed.

Porphyria is the result of an inborn error of metabolism. That this is true, even of the more common acute type to which our patients belong and which usually becomes clinically manifest in middle adult life, is indicated by the familial occurrence. Such patients may previously have noted an unusually dark or red urine. They may also previously have had episodes of abdominal or neuropsychiatric disturbances, as did two of our patients.

The chemistry of the porphyrins is a complicated subject. Our knowledge concerning it is not complete, despite the considerable progress that has been made, in recent years, in this country and in England^{1,2,3}. A few simple facts will suffice for our purpose.

The porphyrins are the basis of the respiratory

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enzymes which occur in all living cells. Their chemical basis is four pyrrole groups linked together by carbon atoms to form a ring and there are various side chains. When iron enters the center of the ring and the group combines with different specific proteins, hemoglobin, myoglobin, catalase, peroxidase and cytochromes are formed.

There is evidence that coproporphyrin is the only porphyrin normally occurring in urine. An increased excretion of coproporphyrin occurs in a large number of diseases and poisonings. That excretion, in itself, is not known to be harmful. The condition is named porphyrinuria, in contrast to porphyria with which we are concerned.

The porphyrias have an increased excretion, in urine and feces, of abnormal amounts of both uroporphyrin and coproporphyrin. The determination of the more specific uroporphyrin is not feasible in most laboratories. However, cases of acute porphyria with abdominal or neurological manifestations have been found by Watson⁴ regularly to excrete in the urine a third substance known as porphobilinogen. This substance has not been crystallized and its chemical relationships have not been determined, but it is easily recognized by the test described by Watson and Schwartz⁵. That is the development of a red color with Ehrlich's reagent which is not extracted by chloroform as is the red substance which Ehrlich's reagent forms with urobilinogen.

There are three types of porphyrias. The congenital type is rare. In it, photosensitivity is predominant and the skin lesions may be serious. Some have had splenomegaly and hemolytic anemias. Splenectomy has relieved not only the anemia but also the photosensitivity³. Porphobilinogen has been absent from the urine⁴.

The "mixed" type, beginning later in life, is also uncommon. It occurs mostly in alcoholics⁶. It is relatively benign, also with photosensitivity and the manifestations chiefly dermatological. The chemical findings are variable, but porphobilinogen was

found by Watson⁴ only in those having abdominal or neurologic manifestations.

Acute porphyria is really a chronic disease with acute exacerbations. In the past, a large minority of episodes were attributed to certain drugs, particularly sulfonal, trional and barbitol. Drugs have not been frequently incriminated in the more recently reported cases.

No single pattern can be described for the attacks. The abdominal pain has commonly been described as cramp-like. It may be intermittent but continuous and severe when present. It may be generalized or localized to any part of the abdomen or flanks. Muscle spasm has been described in a few cases, but usually there is a lack of spasm or rebound tenderness. On the other hand, patients may have fever and leukocytosis suggesting inflammatory disease. Marked constipation is usual, but diarrhea has been described. Abdominal distention may occur. X-rays may show dilatation of the stomach or of segments of bowel, but seldom, if ever, show the characteristic pattern of intestinal obstruction. Jaundice and impairment of liver function occur in some cases. Hypertension is found in some cases and it may be intermittent, even with periods of hypotension.

The nervous manifestations are likewise extremely varied. Before the acute episode the patient may have had lesser neuropsychiatric symptoms for years. Severe pain in the extremities may precede weakness or paralysis. Paralysis may develop suddenly or over the course of weeks. The distribution is usually irregular but in the severe cases becomes almost universal. The mental picture may range from normal through apathy and confusion to a toxic psychosis or coma. Death is usually from respiratory failure.

The diagnosis in either the abdominal or the neurological type, there being no characteristic clinical picture, depends upon considering the condition as a possibility and testing it in the laboratory. The urine may be red or mahogany-colored when it is passed or, if the specimen is acid, it may become so on standing, particularly if exposed to sunlight. It is well to have the laboratory alerted to call attention to all unusually colored urines. The word "dark" on a report may not impress the clinician.

The Watson-Schwartz test⁵ for porphobilinogen is easily performed and is usually reliable. The test may become negative if the urine has stood and should be done on relatively fresh specimens. Wat-

son found⁴ that the urines of forty-four patients with acute porphyria in relapse all contained porphobilinogen. This chromogen diminished or disappeared during remissions. It was not found in the urine of four patients with the congenital photosensitive type of porphyria. In eight patients with the "mixed" type it was found only in the urines of those having abdominal pain or neurologic disturbances.

Watson has stated⁷ that several instances of a false red or pink color in the porphobilinogen test have occurred in his laboratory. One was a case of acute poliomyelitis with large amounts of coproporphyrin and urobilinogen in the urine. Another was a cirrhotic whose urine contained large amounts of coproporphyrin. With several urine specimens containing large amounts of urobilinogen, not all of the red reaction compound could be extracted by chloroform. Crayons and beets ingested by infants gave weak but definitely positive porphobilinogen reactions. In another instance the red color, disappearing like an indicator on alkalization, was thought to be due to an extrinsic pigment. Hammon and Welcker⁸ found no positive tests in examining the urines of 1000 hospital patients.

In our last case who had a peripheral neuritis, the finding of a red urine led to an original false impression of porphyria. The suspicion seemed at first to be confirmed by the Watson-Schwartz test, although the color found in it was rather more orange than the bluish red color of the reaction with porphobilinogen. It was subsequently learned that the patient had been taking pyridium. Other patients were given pyridium and their urines then gave similar false positive tests.

The mortality in the nervous type is high—over 50% in the first attack. The prognosis in the abdominal type is much better.

There have been some reports of improvement following the use of liver extract or other vitamins, but it has generally been found that no treatment is specific. Management remains, at present, symptomatic and supportive. Demerol, because of its antispasmodic effect, has been more effective than morphine for abdominal pain, although of shorter effect. It seems wise to avoid barbiturates because of the evidence that they have participated acute episodes.

CASE REPORTS

Case 1: A white man, twenty-five years old, was

referred to the hospital on March 26, 1951, with a diagnosis of acute pancreatitis. He complained of a recurring, severe paraumbilical abdominal pain of five days' duration. Three years and one year prior to admission he had experienced similar attacks. In the 2nd episode he was diagnosed pancreatitis in another hospital. Physical examination revealed a well-developed and well-nourished man, complaining bitterly of abdominal pain. He had a soft abdomen, no fever, and a blood pressure of 160/120. The urine was dark reddish in color and gave a positive Watson-Schwartz test for porphobilinogen. A 24-hour specimen of urine contained 1240 micrograms of coproporphyrin and was positive for uroporphyrin. Routine laboratory reports and the serum amylase content were reported as normal. The pain was of such severity as to require methadon, 7.5 mgms. subcutaneously, q. 4 h. plus demerol, 150 mgms. subcutaneously, q. 1 to 2 h. for approximately 10 days following admission. From this time on improvement was gradual, and on April 21, 1951, he was free of pain and his blood pressure was normal. He remained asymptomatic and was discharged April 26, 1951. Treatment was symptomatic.

Case 2: A white man, twenty-three years old, entered the hospital in March, 1950, complaining of lower abdominal pain, nausea, and generalized muscular weakness of three weeks' duration. An appendectomy had been performed at another hospital on account of the abdominal pain, but the operation afforded no relief. Physical examination revealed marked generalized weakness, amounting almost to paralysis of many muscles, hypoactive deep tendon reflexes, soft abdomen, blood pressure 160/120, and no fever. The routine laboratory reports were normal. The urine gave a positive reaction for porphobilinogen by the Watson-Schwartz method, and was also positive for uroporphyrin and coproporphyrin. The patient remained afebrile. Treatment was symptomatic. Improvement was gradual. Six weeks after admission his blood pressure was normal, he was asymptomatic, and there were no findings suggestive of neurological disease.

Case 3: A white man, fifty years old, entered the hospital on November 20, 1947, because of hypertension of many years' duration. Twelve days after admission he began having severe mid-epigastric pain, nausea and vomiting. The abdomen was soft, he had no fever, and was constipated. The rou-

tine laboratory reports, gastro-intestinal x-ray series and barium enema were normal. On December 20, 1947, porphyria was considered as a possibility, and his urine at that time showed the presence of porphyrins by the ether extraction method. Later, urinary porphobilinogen was demonstrated, and on February 20, 1948, a 24-hour specimen of urine was reported as containing 1500 micrograms of uroporphyrin. Treatment was symptomatic and recovery was uneventful.

Case 4: A Negro man, forty years old, was admitted to the hospital on September 8, 1949, complaining of abdominal pain, severe constipation, nausea and vomiting, numbness, tingling and weakness of the lower extremities. During the 12 months prior to admission he had experienced three similar attacks, all occurring after he had been on a spree of from 1 to 2 weeks' duration. The symptoms did not occur as long as he was on the spree, but developed within 24 to 48 hours after cessation of alcoholic consumption. With each episode he noted that his urine was dark red and his feces were darker than normal. The physical examination revealed a well-developed, slightly dehydrated Negro man, with a tender, moderately spastic abdomen, temperature of 100.8° F., blood pressure 170/114, muscular weakness of the lower extremities with hypoactive deep tendon reflexes. The routine laboratory reports were normal. One specimen of urine was reported as giving a negative test for porphobilinogen by the Watson-Schwartz method. He was treated symptomatically, and 3 days after admission showed marked improvement objectively and subjectively. At that time it was necessary for him to leave the hospital to attend to some business, and he did not return. We are aware that this is not a proven case of porphyria, but include it because of the clinical history, the neurological findings, and his red urine. We are not sure that the porphobilinogen test was done on a fresh specimen. Tests for uroporphyrin were not properly done.

Case 5: A white man, twenty-seven years old, was admitted to the hospital on April 15, 1951, complaining of abdominal pain, generalized muscular weakness, and numbness and tingling of his feet of one week's duration. The physical examination showed muscular weakness of the upper and lower extremities with hypoactive deep tendon reflexes, partial right facial paralysis, soft, tender ab-

domen, temperature 100° F., and blood pressure normal. His urine was reddish and was reported as positive for porphobilinogen by the Watson-Schwartz method. The spinal fluid contained 370 mgms.% total protein and 20 w.b.c. The routine laboratory reports were normal. Gastro-intestinal x-ray, gall bladder series and barium enema were reported as normal. Subsequent Watson-Schwartz tests were reported as negative. It was learned from the patient's local physician that for several days prior to admission the patient had been taking pyridium. This drug was given to several patients on the Ward. Their urines then gave similar false positive tests for porphobilinogen. The patient thus had the findings of the Guillaine-Barre syndrome. His red urine and the test for porphobilinogen at the time of his admission, together with his clinical picture, led to an original false impression of acute porphyria.

SUMMARY

Four cases of acute porphyria are presented. Another patient having peripheral neuritis was originally so misdiagnosed because of red urine, giving a false positive test for porphobilinogen, due to pyridium. Acute porphyria, although not common,

occurs frequently enough so that its possibility should be considered in any abdominal or neuropsychiatric disorder which is not otherwise clearly explained.

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Magnetic Sound-On-Film Will Aid Medical Teaching.

The addition of a magnetic iron stripe to 16mm film will produce a small revolution in all education, according to Dr. David S. Ruhe, Director of the Medical Audio-Visual Institute of the Association of American Medical Colleges.

The magnetic stripe is a recent technical development which allows amateur film producers to convert silent film footage into sound movies easily and inexpensively.

Writing in the May 1952 issue of *The Journal of Medical Education*, Dr. Ruhe goes on to say that in medical education this revolution is coming very soon. Rapid advances of medical research projects make constant editing of teaching films necessary in order to prevent obsolescence. This problem now

becomes greatly simplified.

Making use of the same procedure as the tape recorder, the stripe makes possible great flexibility in commentary. Medical teachers will be able to adapt sound strips to different audiences. For example, a film used for medical students may be "erased" and re-recorded for use with a group of nurses.

Cost of the magnetic iron stripe will be somewhat less than the titles of a silent film, Dr. Ruhe says.

Many medical centers possess silent films of surgical procedures and rare clinical cases which may now be adapted easily for classroom use. Projection time is gained with the omission of titles.

Quality of sound on the magnetic film is excellent, and the iron stripe is said to outwear the film to which it is applied.

HOW YOUNG AM I?*

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The time that old age begins is debatable. At the present time, it is largely a matter of personal opinion or definition. Most people like to believe that old age begins about ten years beyond their current age. The teenager plans to "be old" at 25. The matron at 55 is resigned to the fact that at 65 she will have to accept the classification of "oldster."

A comprehensive survey made to obtain a more satisfactory answer to this question showed that a majority of the people questioned felt that 49 marks the entrance to old age.

Did any of you see that recent Robert L. Ripley cartoon, captioned: "The Only Women in the World Who Never Grow Old?" It depicted the women members of a tribe in India who were born 60 years old. Each year following birth, they subtracted one year from their age. They kept getting younger and younger, instead of older and older. That's a good trick, if you can do it!

Aging is the result of a very complex interaction of biological forces, most of which are unpredictable and cannot be measured with any degree of accuracy.

Aging should not be confused with longevity. Longevity merely is a measure of the number of years we live. As far as oldsters go, there isn't much that we can do about that.

All kinds of people with all kinds of habits, both good and bad, manage to become centenarians. Some eat, drink, and smoke to excess, others just loaf along through the years. The only common denominator found in the past histories of most centenarians is the fact that their parents lived a long time. Their longevity seems to have been inherited.

Perhaps that's the very clue we have been looking for. If we want to live to be 100, and if we ever again have the opportunity, let's be sure to select long-lived parents.

We still know very little about the aging process, but we do know a lot more about it today than we did fifty years ago. It is now believed that various diseases and unfavorable environmental conditions join hands to bring about a cumulative breakdown

of the organs and tissues of our bodies. This breakdown is spotty. Some tissues age faster than others. As tissues are destroyed, little by little they are replaced by a form of less efficient connective tissue. You have seen the evidence of that in the wrinkling of the skin on the back of the hands with age. When the breaking down process reaches its maximum, we die.

It is the long period of gradual breakdown prior to death which we call the period of "aging." This period may be short or it may be very long, depending upon a lot of variable factors which are difficult to define. For example, a person whose heart ages much faster than other parts of the body may die at the age of 50, of coronary heart disease, whereas another person whose organs all age at about the same rate may live to be 80. If only some way could be found to minimize the injurious effects of disease and environment, life probably could be prolonged indefinitely.

As Dr. Henry Simms, of the College of Physicians and Surgeons, in New York City, puts it, "It has been computed that if the human body could retain all during life the ability to resist disease and repair breakdown that it possesses at the age of 10, man would have a life expectancy of 800 years. and some individuals might survive 2200 years." Eight hundred years is a long time—perhaps too long.

Aging actually starts at the time of conception, but it only becomes apparent as "aging" in the later years of life. From conception on, the various organs and tissues go through a period of involution that eventually terminates in death.

For a few years after birth, the tissues grow faster than they break down. That is the period of childhood, when maximum growth occurs. Sooner or later, the reparative process begins to lose out. It is then that we begin to notice that the stairs have grown steeper and longer, that lights are less bright; and that our daily workload *must* be heavier because we are much more tired at night than we used to be. This is evidence that age is creeping up on us.

This process of breaking down is not related very

*Read before the Health Meeting of the Business and Professional Women's Club of Richmond, Va.

closely to the actual number of years we have lived. It is much *more* related to our biological age—not our chronological age.

Most of us know what our chronological age is: 32, or 45, or 57. None of us knows our biological age. At any given time, our brain, biologically may be 50, our heart, 70, and our liver, 100. The only way we, theoretically, could determine our true biological age would be to determine the separate biological ages of each of our organs and tissues and then average them out. We can't do that with the means at hand today. The best we can do is to estimate our biological age by indirect methods.

We *can* have a physical examination. If this is done by a competent and interested physician, who makes full use of the many laboratory tests that are available, we can establish a close approximation of our biological age. Such an examination cannot be considered complete unless the mental and emotional status is determined at the same time that the physical examination is done.

Many early chronic diseases, which otherwise would cause premature aging, are picked up during these periodic examinations. Found early, many can be brought under control and undue aging can be prevented.

The very interesting and successful multiple screening demonstration which was conducted in Richmond, Virginia, last year, was indicative of the growing tendency to seek out signs of the chronic diseases early, so that they can be stabilized.

It is hard to appreciate the rapid increase in the incidence of chronic diseases during the last two decades. Recently I received a copy of the monthly bulletin published by the Virginia State Health Department. In it I found a table that listed the number and causes of deaths in Virginia for the first six months of 1950. Of the 14,755 deaths recorded, all except 4,896 of the deaths were caused by the cardiovascular diseases, cancer, and accidents. Two-thirds of all the deaths in Virginia for the first six months of this year were attributable to these three causes.

As the number of older people in our population continues to skyrocket, because of better medical and public health practices, the incidence of the chronic diseases will continue to increase. This is inevitable.

The control of the chronic diseases bears a definite relationship to aging. The chronic diseases accelerate

the process of physical deterioration and retard the normal processes of repair. They result in premature aging and many times, premature death.

At times, the human race is very inconsistent, some times more than others. There is one point of inconsistency which, to a physician, stands out above all of the rest. Billboard advertising, radio and television exhortation, and the soft-spoken suggestions of service station attendants have succeeded in conditioning most of us to husband the mechanical resources of our automobiles, not that there's anything wrong with that. It's a commendable practice. The regrettable fact is that physicians, public health workers, and health educators, including myself, somehow have failed, where the automotive industry has succeeded. We have never succeeded in conditioning large numbers of people to take stock of their physical, emotional, and mental equipment in the same manner and to the same degree they have their cars checked.

The wisest thing that we can do is to admit our failure gracefully, borrow some lessons from our commercial brethren, if that will help, and develop more realistic and effective methods of getting the idea over to people that they need to do something in a positive way to preserve what health they have left.

When, some years back, I became interested in aging as a public health problem, I, naturally enough, was curious to find out why aging and the control of chronic illnesses had suddenly become a national problem. The facts which confronted me soon convinced me that this was a huge problem.

In 1900 there were only three million people in the United States over the age of sixty-five. By 1950 this number had risen to eleven and one-half million. It is estimated by 1980 the number will be about twenty-two million. That's a big problem. We are being engulfed by a veritable flood of oldsters.

The economic importance of the problem was as impressive as its size. Three-fourths of the eleven and one-half million oldsters receive an annual income of less than \$1000 a year, from all sources, which is about \$80 a month. There *was* a time when you could stretch a thousand dollars a long way. An income of \$1000 a year today merely provides one with a delightful opportunity to slowly starve to death.

In his summation of the proceedings of the 1950

Conference on Aging, Dwight Cook reported that, "... if present trends continue, by 1957 the support of the aged will cost the Federal treasury fifteen billion dollars a year." In New York State, the care of the aged represents the largest single public welfare expenditure in the State. On September 1st, a news release quoted the increase in the "over 65" age group in Washington, D. C.—from 1940 to 1950—as 15,610, or 37%. This was the highest increase noted in any age category. The day before, another news item stated that the increase in the size of the older age group was creating many difficulties in the administration of the public welfare program because so many people in this age group were candidates for one sort of relief or another.

It looks as if we will have to figure out some way to keep these older folks at work as long as possible if we are ever going to be able to handle this problem.

Back in 1880, when most people lived on farms, this was no problem. Seventy per cent of the men over sixty-five were working. The women were taking care of the house. In 1950, with the majority of the population residing in cities and towns, about forty-three per cent of the men over sixty-five are working. Estimates indicate that if the present downward trend continues until 1960, only *one* out of every *three* men over sixty-five will have a job. The statistics for women are equally disturbing. Only nine per cent of older women are employed. The full significance of these facts is not hard to appreciate.

By 1960, two out of every three men over sixty-five, and better than nine out of every ten women in that same age group will have to be supported by those of us who are still working. If the number of people over sixty-five in the population continues to mount, and the number of people over sixty-five who are working continues to drop, imagine the economic burden that middle aged workers will have to carry ten or twenty or thirty years from now.

If some method is not developed that will turn these non-producers into producers, the financial burden eventually will become back-breaking.

It would almost seem that medical and public health practices were working to unbalance our national economy. I have confidence that we can continue to save and prolong lives without wrecking our economy. All that has to be done is to take

the necessary steps to correct the situation that has developed.

There are several things that we can do right now.

1. We can take time out from our otherwise busy lives to really understand the aging problem and all of its many ramifications.

2. We can join with others to change our archaic system of retirement. People are hired because they are fit to work. They should be fired or retired because they no longer are fit to work—not because they have reached some arbitrarily established chronological age.

3. We can encourage and assist in the development of rehabilitation and re-training services, so that periodically, older workers can be "de-aged." By physical and mental rehabilitation, we can salvage many discarded workers. Re-training older people for less arduous jobs can salvage many others. We need them all on the production lines.

In addition to its size and its economic importance, the problem of aging has great social significance. In the words of Dr. Martin Gumpert, an eminent geriatrician, "The change that has occurred almost imperceptibly implies a profound revolution, a revolution in deep-rooted standards of life, of thought, of social and economic conditions, of family bonds, which may crack or rebuild the foundations of our civilization."

For many years, we have been focusing our attention on children and youth. Much less thought has been given to the care of the aged. As a result of this social myopia, many old people are hungry; many lack adequate shelter; thousands die each year in institutions, abandoned by their families and friends; still others live unhappy, frustrated lives with sons, daughters, or relatives whose knowledge of how to deal with children far exceeds their appreciation of the basic needs of the old folks.

Many of these needs are intangible. Others are very tangible. There are five basic ones.

1. Old folks need adequate medical care if they are to be kept in a state of reasonable repair.

2. They need economic security—not an income of \$5000 a year, but enough to guarantee them the essentials of life.

3. They need an opportunity to engage in useful activity. It has been well said, "A mind at rest is a mind distress."

4. They need a home. A house is not enough.

They need a home in which they can have some privacy, and a quiet place to read . . . a home in which they will be wanted and appreciated.

5. They need to maintain their independence and their self respect. It is tragic when these are taken away from them. It is going to take some knowledge of how the human mind works for us to understand and apply these five basic principles.

The whole problem of aging has been complicated and a solution to this problem has been delayed by the existence of faulty attitudes on the part of old folks themselves and on the part of persons responsible for their care. An example of this is the growing tendency for the care of aging parents to be shifted to already overloaded public agencies. Parents are declared to be mentally incompetent and are committed thoughtlessly to mental institutions.

82% of old folks committed to these institutions are admitted with a diagnosis of senile psychosis or cerebral arteriosclerosis. In layman's language this means that age has caused a hardening of the arteries of their brain. Their brain doesn't function as well as it did when they were in their prime. Most of these people are not dangerous, and treatment will be of little permanent benefit to them. They merely are being penalized for the crime of growing old and getting in younger people's way.

No matter how well constructed a mental hospital may be; no matter how good the food and no matter how skilled and considerate the staff, they are not the place in which most of us would want to end our days. Then why do so many children commit their parents to these institutions? Is it because they are selfish and cruel? Or is it because they are desperate and don't know where to turn for help in a community that, through ignorance of the problem, turns its back?

I don't think many of them mean to be selfish and cruel. With more community understanding and help most of these older folks could be kept at home.

* * *

There are other ways in which the rapid aging of our population is bringing about social changes. An example of this is our changing attitude toward the employment of older women. More women over 45 are employed in industry today than were employed during the year of peak war production—1944.

When you come right down to it, it makes sense to help these older women find employment. Once the children are raised, there is little reason why "ex-mothers" shouldn't seek employment, or re-employment, even if they obtain only part-time work. As important as bridge, canasta, and late afternoon cocktails are to our American way of life, they don't add much to the family income. At best, they are relatively benign escape mechanisms for a lot of bored people. They hardly qualify as a substitute for the very active and purposeful life that mothers live during the years that their children are growing up. On the other hand, sensibly selected employment permits ex-mothers to make a satisfying contribution to the welfare of their community and it gives purpose to their life which is all too often lacking.

Many strong influences are at work tending to favor the employment of older women. One of these is the growing need for increased production. Our standard of living is the result of an interplay between two factors: namely, the number of producers, and the number of consumers.

This can be visualized as a formula: $\frac{P}{C} = S$

The number of consumers is represented by all of us. Everyone is a consumer. The number of producers varies from year to year, dependent upon economic conditions, war, and politics. If the number of consumers remains substantially the same, whereas the number of producers increases, we will have more goods and services to distribute to the consumers. In other words, the factor "S", which represents our standard of living will go up. There will be more goods, such as refrigerators and nylons, and other public and private services—for all of us—regardless of cash income.

One way to increase the number of producers, and thereby raise our standard of living, is to encourage and make possible the employment of older women in positions fitted to their abilities, and geared to their biological age.

* * *

This business of growing old requires careful planning and preparation *before* we grow old—not afterwards. If we plan to work as long as possible, we may have to learn a new trade or develop a new skill. The work we are doing at forty may be too strenuous for us after we pass fifty. Or, we may develop a profitable avocation that will help us fi-

nancially when full-time work is no longer practical. Many people have done this. It is during the middle years of life that we should begin planning a work reduction program—not a program of work elimination.

* * *

Another resource we must plan for is friends—just plain, old-fashioned friends. You know as well as I that you don't acquire *them* in a hurry. You have to cultivate them over a long period of time. The time to build up a wide circle of friends is while you are still young and active, so that as the years take their toll, some will still be left when you, yourself, are old. Friends are costly. They sometimes interfere with our pattern of living. They borrow—sugar, cigarettes, and even money. Sometimes, they don't return them. But they give us something, too—something we need more and more after our hair has reached the greying stage. They give us companionship and a helping hand when trouble strikes. We must plan well ahead of time, if, when we are old, we are to have friends and hold them.

* * *

Loneliness in old age is a more potent threat to women than it is to men. Most married women, by the time they reach the age of 65, will be widows. For better or worse, their husbands will be dead. You have probably heard the popular theory that attempts to explain why women outlive men and have amassed 80% of all of the money in the country. The theory is that men work so hard, and worry so much, trying to get enough money to take care of their wives after their own death that they drop

dead from overwork. Be that as it may, loneliness during old age is a very concrete problem that many women are called upon to face.

A long and lonely life is not something any of us looks forward to with any degree of anticipation. That is why it is far more important to concentrate on the *quality* of life rather than on its *quantity*.

That is particularly true if we realize that we can *improve* the quality of life, but can do little to increase its quantity, as far as the oldsters go. You see, only children and young adults have had their lives extended appreciably during the past fifty years.

Only 1½ years have been added to the oldster's life span since 1900. That isn't enough to get excited about. It won't be until we know more about the fundamental causes of aging, and have developed means of checking the chronic diseases more effectively, that we will be able to add years to the life span of people over 65. So—we can't expect to live to be 100!

That's the story of aging, as I see it. Aging can be a great and stimulating experience if we want it to be—a bit like going down to the sea in a ship. When the winds blow and the seas begin to rise, the boat will sink or float, depending upon the sturdiness of the hull, the skill of the skipper, and the will of Providence.

We in the middle-aged group can see the storm clouds gathering up ahead. Whether *we* sink or float will depend upon whether we take steps to repair our aging hulls; orient ourselves to the blow ahead; and try more earnestly to enlist the support of Providence.

GASTRIC SURGERY IN A SMALL HOSPITAL*

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The initial treatment of peptic ulcer is ordinarily a medical problem, consequently, the surgeon rarely sees a patient before he has developed one of the complications. It has been our desire to follow the patients who have undergone gastric surgery and who have, by the nature of their work (physical labor in most cases), been unable to follow a strict dietary management. Because of this fact, we often encounter patients who might have avoided surgery had they consulted their doctor earlier.

Some of the so-called complications of peptic ulcer are indications for surgery, and may be generally divided into four categories:

1. Perforation, which is one of the most spectacular and dramatic of abdominal catastrophies. Emergency laparotomy is ordinarily indicated so that surgical repair may be carried out. For many years it was thought that simple mechanical closure of the ulcer, with or without an omental graft as advocated by Graham, was the treatment of choice. However, in recent years two alternative modes of therapy have been advocated. These include the administration of massive doses of chemo-therapeutic agents and institution of constant gastric suction. This method has been advocated by British and French surgeons and has received support in this country by several clinics. We believe it should be reserved as a treatment for those cases that are such poor operative risks that laparotomy is inadvisable. In our own cases we have employed suction in only the advanced cases of peritonitis.

The other method is directed at ablation of the disease itself, as well as to control the acute emergency. Subtotal gastrectomy has been proven to be a safe procedure at time of surgery for the many acute perforations.

2. The second indication for surgery is hemorrhage from an active peptic ulcer. This may be indicated because of repeated small hemorrhages from an apparently refractive ulcer, or it may be in the patient who develops a massive hemorrhage. In these cases

often the administration of blood cannot keep pace with the exsanguinating gastro-intestinal lesion. We feel that any patient over 45 years of age who has had repeated hemorrhages from peptic ulcer should undergo gastrectomy. It is usually wise to wait until the hemorrhage ceases and the blood volume has reached its equilibrium.

The decision as to when to operate upon a person with a massive gastro-intestinal hemorrhage is as difficult a problem as is found in surgery. Most of the patients are too sick for proper thorough examinations to locate the bleeding point. In certain cases it is practically impossible to distinguish between hemorrhage from esophageal varices, peptic ulcer, severe gastritis and a lesion located in the proximal small bowel. The use of the esophagoscope and a trial of therapy with the Blakemore tube have been of value in ruling out esophageal lesions.

Once the diagnosis of peptic ulcer has been made as the etiological factor of the hemorrhage, the optimum time for surgery is often a difficult problem. We have no direct rule that we follow, but often use as a guide repeated blood studies and hematocrit determination. If we are unable to keep the blood volume at a safe level with the transfusion of approximately 500 cc. of blood each 8 hours, we believe that laparotomy should be performed, with a great quantity of blood available, together with equipment to administer it rapidly.

3. The third indication for surgery is the patient with pyloric obstruction, or the so-called "blocked stomach". This is ordinarily the end result of many years of peptic ulcer disease and usually is accompanied by varying degrees of gastric dilatation and early emaciation.

4. The fourth surgical indication is usually designated as intractability; ulcer symptoms which have persisted for years, and each exacerbation is worse than its predecessor. Often change of the type of pain will indicate penetration. Pain is usually refractive to even the most strenuous medical ulcer management, so that, conservative methods having failed, surgery is indicated.

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In addition, the gastric ulcer we designate as the added indication. We also believe that all gastric ulcers are suspicious of malignancy. Carcinoma of the stomach, if it is to be cured surgically, must be treated early. The diagnostic facilities which we have at our disposal are not foolproof. Gastroscopy is still limited for effective use to certain large medical centers, and the majority of diagnoses are left to the Radiologists. The so-called observation period of medical management to observe the gastric ulcer crater for increase or decrease in size has been shown by Drs. Lahey and Cole to offer erroneous information as malignant ulcers will heal to some degree on medical management, with a decrease in size of crater and relief of symptoms, thus masking for several months the early growth of the cancer.

We do not propose to enter into a discussion as to the etiological relationship of a benign to a malignant ulcer, but we would like to emphasize that the gross appearance of the two may be so similar that the true diagnosis may not be discovered even after frozen section, but must wait the more accurate paraffin sections.

If this is true, it can readily be seen how helpless we are to accurately determine its malignant qualities by means other than surgical exploration in the suspicious cases. It has been observed by Allen that when resection is performed on the "cancer ulcer" group, the five-year survival was 40%, as compared with the 20% survival in the "gastric cancer" group. The Radiologist, adept as he is in differentiating benign from malignant lesions, calls a malignant ulcer benign in 10% of cases.

Since Billroth first suggested partial gastrectomy in 1881, surgical procedures upon the stomach and duodenum have taken many and varied forms. Billroth soon modified his technic from a simple resection and gastro-duodenostomy (Billroth I) to a resection with closure of the divided duodenum and anastomosis of the stomach pouch and proximal jejunum. Surgeons such as Polya, Hofmeister, Balfour, Horsley, Finsterer, Babcock and many others have perfected modifications of these two types of resection; and each has its own advocates who report satisfactory results.

Procedures of lesser magnitude than gastric resection have had their era of popularity, and certain of these limited procedures still may be indicated in selected cases. These include pyloroplasty, simple

gastroenterostomy, excision ulcer, ligation blood supply, and, most recently, vagotomy.

The amount of stomach that should be resected has often been a point of arbitration. Several years ago it was generally believed that the more stomach resected the greater the chance of a permanent cure. However, now the pendulum appears to swing back toward a more conservative resection of 60-65% of the stomach. We believe if an excessive amount of gastric tissue is removed, the ability to resume a normal digestive process is endangered. Failure to gain weight following resection and the dumping syndrome are often attributed to removal of excessive amounts of the stomach.

The most popular type of anastomosis performed in this country at the present time is some modification of the Billroth II technic. In recent years the antecolic anastomosis is often preferred because of the greater facility with which it can be accomplished, and it is said to have no untoward effects as was originally thought. We would like to point out the fact that the Billroth I anastomosis should not be forgotten, as it can, in many cases, be more simply performed and restores the gastro-intestinal tract to a more normal physiological position. The chief criticism of this procedure has been that an adequate amount of stomach cannot be removed. We have found that in many individuals (particularly gastric ulcers) that 60-70% of the stomach can be resected; and the duodenum can be mobilized so that a tension-free anastomosis can be effected. We routinely do what we believe is an adequate resection and then decide upon the type of repair that may be performed. In 27% of our cases a Billroth I anastomosis was performed. Although the majority of Billroth II type of repair that we have performed have been retro-colic, we have no objection to an antecolic method and are now employing it more and more frequently.

Pyloroplasty has been occasionally performed in the past for stenosing lesions from scar tissue in the pyloric regions.

In certain poor risk patients with pyloric obstruction, gastroenterostomy may be the procedure of choice as it is a much less traumatic operation.

Vagotomy has been used by us only in recent years, and except for one case, is not included in this series. We reserve its use for marginal ulcers.

Several years ago our attention was focused on

the problem of recurrent perforations of the peptic ulcer. One case that came to us had undergone closure for a perforated ulcer twice in the past 18 months; perforated the third time, and, on exploration we found such a large callous ulcer that we believed a simple closure a mechanical impossibility. A gastric resection was performed, and the patient got along so well that we decided to investigate the possibilities of this procedure further.

European surgeons have for years performed gastric resection for treatment of perforation. Judine, Odelburg, Mulleder, Munberg and others have reported mortalities from 4 to 14%. An Italian surgeon, A. Franchini, reports 98 resections in a series of 200 cases of perforated ulcers, with a mortality of 10.3 for the resections, and 17.6 for the closures. Continuing our interest in this technic, Dr. Emmett reported our first seven cases of gastric resection for perforated ulcers at the Southern Surgical Association in December, 1948. Two of these seven cases were proven histologically to have been adenocarcinomas, unrecognized grossly at surgery. Up to the present time we have now resected 24 perforated ulcers without a mortality. Six of these have been for walled-off perforations, and the remaining perforations have been present for from 3 to 18 hours. We have found that the morbidity is less than for a routine resection, and there has been only one patient who has not been relieved of ulcer symptoms. We now employ resection as the treatment of choice in perforated ulcers, especially gastric ulcers.

Post-operative care of the patients undergoing gastric surgery includes carefully regulated fluid balance and blood transfusions. In an attempt to reestablish the normal physiological activities of the gastrointestinal tract, we remove the gastric tube as early as the day of surgery. The patient is started on oral liquids 48 hours post-operatively. However, close attention is paid to early signs of gastric dilatation and the tube is reinserted if indicated. Routine prophylactic chemo-therapeutic agents of sulfadiazine, streptomycin and penicillin are employed in various combinations.

In our series of 173 operative procedures upon the peptic region for ulcers, we found that 154 patients were males and 19 females. Initial symptoms of peptic ulcer disease were present for over five years in 90, or 52%; while 22% had had symptoms for 1-5 years. The precipitating or immediate symptoms

173 CASES OF GASTRIC SURGERY
1946-1950

Males	154
Females	19

MEDICAL MANAGEMENT

None	58
Less than six months	32
Six to twelve months	16
One to five years	25
Over five years	40

which demanded surgical relief were present for less than six months in 140, or 81% of the cases. 33% of the patients had not been on medical management prior to surgery. 18% had received medical management for less than six months; and 38% had been treated for over one year. Of the 173 patients seeking relief, 40, or 23%, had had previous gastric surgery. Closure of a perforation was most frequent, having been performed in 19 patients; seven had

PREVIOUS SURGICAL PROCEDURES	40
Closure of perforation	19
Gastroenterostomy	10
Gastric resection	7
Pyloroplasty	2
Excision of gastric diverticulum	1
Excision of peptic ulcer	1

had previous resections; ten had undergone gastroenterostomies; two pyloroplasties; one excision of a gastric diverticulum; and one excision of a peptic ulcer.

Indication for surgical intervention was called for by hemorrhage in 44 instances, or 28%; obstruction in 40, or 23%; perforation in 39, or 22.5%. Marginal ulcer, with intractable pain, was present six

INDICATIONS OF SURGERY

	No. Cases	
Hemorrhage	44	28 %
Obstruction	40	23 %
Perforation	39	22.5%
Suspicious gastric ulcer	30	17.2%
(Proven malignant)	10	
Intractable	13	7.0%
Marginal	6	4.0%
Congenital atresia	1	.6%

times; and in 30 instances a suspicious gastric ulcer, which could not be identified as cancer pre-operatively, constituted the indication. Ten of these, or 33%, were found to be malignant at time of surgery. Thirteen patients who were not responding

to prolonged medical management were operated upon. One patient had a congenital duodenal stenosis.

The types of procedures employed include 131 subtotal gastrectomies, or 75% of the cases. A Billroth I repair was done 33 times, or 27%. Eight had an ante-colic Hofmeister modification and 88, or 51%, had a post-colic Hofmeister anastomosis; 17 perforated ulcers were closed, and two perforated

TYPE OF SURGICAL PROCEDURE	
Gastric resection	131
Post colic Hofmeister	88
Billroth I	33
Ante colic Hofmeister	8
Resection plus closure of colon fistula	2
Closure of perforated ulcer	17
Gastroenterostomy	16
Pyloroplasty	5
Drainage of abscess of perforated ulcer	2
Closure of gastroenterostomy	1
Vagotomy (abdominal)	1

ulcers with abscess formation were merely drained. 16 posterior gastroenterostomies were performed, and one patient had an old gastro-enterostomy taken down. Two patients underwent resection and closure of gastro-colic fistulae, and one abdominal vagotomy was performed.

PATHOLOGY	
Duodenal ulcer	88
Gastric ulcer (benign)	48
Malignancies	15
Marginal ulcer	11
No ulcer (gastritis)	3
Inflamed intestine	1
Scar tissue	5
Hypertrophied pylorus	1

51% were duodenal ulcers. 48, or 27%, were benign gastric, and 15 malignancies, which were not diagnosed prior to surgery, but underwent surgery for either hemorrhage, perforation, or as a suspicious gastric ulcer, are included in the series. Eleven marginal ulcers were present, and in three

POST-OPERATIVE MANAGEMENT	
	No. Cases
Chemo-therapy	
Penicillin	110
Sulfa	159
Streptomycin	82
Gastric suction	115
Abdominal drainage	127

instances, no ulcer was found in the resected specimen. Inflamed tissue was described once, and also one hypertrophied pylorus.

Post-operatively, penicillin was administered to 110 patients; sulfa to 159 (in wound and/or paren-

UNFAVORABLE RESULTS (RECURRENCES)		
	No. Cases	%
Gastrectomy		
Diagnosis of recurrence	11	8.5
Required surgery	7	5.3
Closure Ulcer		
Diagnosis of recurrence	6	35.0
Required resection	4	23.5
Gastroenterostomy		
Diagnosis of recurrence	3	18.7
Required resection	2	12.5
Pyloroplasty		
Diagnosis of recurrence	2	40
Required resection	2	40

terally); and streptomycin to 82 in various combinations. Wangensteen suction was employed after the operative day in 115, or 63% of cases, and 73% of the cases had abdominal drains.

Follow-up studies have revealed 11 cases of resection who were diagnosed as having a recurrence. Seven, or 5.3%, required further surgery. Of the

COMPLICATIONS		
	No. Cases	%
No complication		79.2
Pneumonia	12	6.9
Wound infection	8	4.6
Wound separation	5	2.8
Delayed stomal opening	3	1.7
G-I fistula	2	1.0
Thrombophlebitis	2	1.0
Pancreatic fistula	2	1.0
Pelvic abscess	2	1.0
Dumping Syndrome	1	0.6

perforated ulcers closed, 10 have had recurrences; and four, or 23.5%, have already undergone surgery. Three of the 16 gastro-enterostomies have developed marginal ulcers, two necessitating resection. Two of the five pyloroplasties have undergone further surgery.

79.2% of the patients had no complications, but 12 patients, or 6.9%, had clinical evidence of pneumonia. Eight, or 4.6%, had wound infections; and five had wound separations requiring further closure. Three patients had edema of the stoma with gastric

retention over a longer than normal period. G-I fistula, thrombophlebitis, pancreatic fistula and pelvic abscess were found in two cases each. There was one patient with symptoms of a dumping syndrome.

Five deaths occurred in the 173 cases for an overall mortality of 2.8%. Four of these followed gastrectomy, or 3.0%. A summary of these cases is as follows:

Case A—A pulmonary embolus caused the death of an 18-day post-operative patient convalescing from a pyloroplasty.

Case B—Was operated upon for a massive G-I hemorrhage and underwent resection of his stomach. However, the bleeding continued, and patient expired on the second post-operative day despite massive replacement therapy.

Case C—Underwent a gastric resection for a suspicious gastric ulcer. The ulcer was malignant, and he died on the ninth post-operative day of peritonitis from a leaking suture line.

Case D—Age 74. Had a Billroth I resection for a bleeding duodenal ulcer and expired suddenly on the ninth post-operative day from a suspected pulmonary embolus.

Case E—Had undergone two previous procedures on her stomach for ulcer disease because of a massive hemorrhage from a marginal ulcer. The technical hazards were many, and post-operatively she developed an abdominal abscess which later required drainage. She left the hospital for one month and later returned with multiple abdominal abscesses and small bowel fistulae.

The average number of post-operative hospital days was 14.39 for all cases. For elective gastrec-

DEATHS—POST-OPERATIVE

MORTALITY: ALL PROCEDURES ----- 2.8%
GASTRECTOMIES ----- 3.0%

1. Pyloroplasty, P.O. 18; pulmonary embolus.
2. Gastric resection, P. O. 2; continued massive hemorrhage. No ulcer found in specimen.
3. Gastric resection, P. O. 9; peritonitis, secondary to ruptured suture line.
4. Gastric resection, Billroth I; pulmonary embolus P. O. 9.
5. Gastric resection, 3 mos. P. O.
Abdominal abscess with multiple small bowel fistulae.

tomies—14.8 days. For simple closure of perforated ulcer the average post-operative stay was 13.5 days; and in our selected group of 24 cases of gastrectomies done at time of perforation, the average number of post-operative days was 10.8.

AVERAGE NUMBER POST-OPERATIVE HOSPITAL DAYS

All procedures ----- 14.39%
Gastrectomies ----- 14.8
Closure perforation ----- 13.5
Gastrectomy at time of perforation ----- 10.8

In conclusion, we should like to repeat that we believe (1) subtotal gastrectomy is the treatment of choice for peptic ulcer disease complicated by hemorrhage, obstruction, intractability, and suspicious gastric ulcers. (2) 33% of the 30 suspicious gastric ulcers in this series were found to be malignant. (3) The Billroth I repair must not be forgotten. (4) We believe that in selected cases gastric resection is the preferred treatment for a perforated ulcer. In our cases the morbidity was less and the mortality nil.

A REVIEW OF PRESENT CONCEPTS ON THE AUTONOMIC CONTROL TO THE GASTROINTESTINAL VISCERA: CLINICAL APPLICATIONS*

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An increasing amount of knowledge has been gained in recent years concerning the autonomic innervation to the digestive tract, and in some measure has been gained through study of the effects of relatively new surgical procedures involving denervation of various segments of the sympathetic and parasympathetic pathways. In addition, the chemist and physiologist have broadened the scope of our concepts by indicating the chemical structure and mode of action of various neurohumeral substances through which these nervous effects, either excitatory or inhibitory, are mediated. This knowledge has been also enhanced by the use of certain inhibitors or blocking agents with anti-cholinergic or anti-adrenergic action which have become useful not only therapeutically but also as pharmacologic "tools" in the study of physiologic mechanisms.

Since there is a close interrelationship of cortico-hypothalamic centers, the pituitary gland and the autonomic nervous system, a resume of a few pertinent anatomic features will point out the role assumed by higher centers in the control of vegetative function.

The visceral nerve supply consists essentially of two contraposed systems, the parasympathetic and sympathetic, which, however, are not necessarily antagonistic. The integration of their action is through the central nervous system either by internuncial neurons in the cord or higher up in the medulla or hypothalamus, the former composing the simplest visceral reflex arc and the latter two more complex. The lateral and posterior hypothalamic nuclei are said to integrate sympathetic activity¹, while the midline and anterior nuclei control parasympathetic function². Other nuclei regulate the posterior pituitary. Direct nerve connections with the anterior pituitary may exist although it has not yet been

demonstrated, but it is known that stimulation of hypothalamic nuclei controlling the sympathetics will produce massive adrenergic discharge, which in turn causes increased activity of the anterior pituitary, with subsequent effects that are infinite.

At the highest integrating level, the cortex mediates partly the control of cardiovascular, gastrointestinal and glandular activities and at the same time is the area of conditioned reflexes, tensions such as worry, frustration and guilt, and crises such as rage, fear and certain compulsive phobias³⁻⁶. It is therefore possible to see that many visceral responses, either transient or sustained, may well be initiated in this sphere.

Consideration of the visceral nerve supply involves two groups, the motor or effector component and the sensory afferent pathways. The anatomical arrangement will not be further discussed except to mention that the motor outflow tract of both the sympathetic and parasympathetic systems consists of a pre- and postganglionic neuron. Both cranial and sacral parasympathetic postganglionic neurons lie in or near the wall of the organ innervated, while in the sympathetics, they are situated in the collateral ganglia (celiac, hypogastric, mesenteric) for the most part, and to a lesser extent in the paravertebral chain ganglia. Sympathetic visceral afferent fibers have cell bodies in spinal dorsal root ganglia, but their axons course through the various nerve trunks (e. g., splanchnic) and ganglia (e.g., celiac) alongside those of the motor fibers. Vagal afferent fibers have their cell bodies in the nodose ganglia which send fibers centrally to the sensory nucleus of the vagus.

In this connection, there have been repeated hypothetical explanations in the literature for the relief of peptic ulcer pain following vagotomy or after therapy with various anti-cholinergic blocking drugs. Among the more frequent is reference to the possible severance of pain pathways or to pharmacologic block of afferent pain fibers. Neither explanation is tenable if one means true visceral pain, for it has been conclusively shown that such impulses are mediated through either the splanchnic or hypogastric

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(sympathetic) pathways⁷. Since afferent pain fibers only course through the collateral and chain ganglia, they would normally not be subject to the blocking action of the usual anti-cholinergic agents. More logical reasoning would suggest atony (with the consequent buffering effect of food) plus secretory depression as the responsible factors⁸.

This view is also in accord with the relief that is afforded in simple dysmenorrhea by anti-cholinergic drugs and by resection of the hypogastric plexus and is the natural sequence of the division of afferent pain tracts.

Although anti-cholinergic drugs may be beneficial in chronic pancreatitis, it is not by interference of pain pathways but by any of the following mechanisms: reduction in tone of the sphincter of Oddi, reduction in gastric HC1 and its stimulating effect, or inhibition of the cephalic or vagal phase of pancreatic secretion. The intractable pain of chronic pancreatic disease can only be abolished by interruption of the splanchnics or the sympathetic chain from T9 through T12, if surgery is directed toward the autonomic nervous system. Pancreatectomy may also effect relief, but the mechanism is clearly not the same.

It has been erroneously stated that the performance of subtotal gastrectomy (three-fourths' resection) approximates at the same time a vagotomy by division of subserous vagal branches. It can be plainly seen that such is not the case when it is recalled that most of the posterior vagus shortly leaves the cardiac portion of the stomach just below the diaphragm and enters the celiac ganglion or plexus.

It appears that the parasympathetic and sympathetic systems are contraposed but not always antagonistic since the vagus is cardio-inhibitory and visceromotor and the sympathetic cardio-excitatory and visceroinhibitory⁷. For blood vessels to the viscera, the vagus is vaso-inhibitory and the splanchnics vasoconstrictor¹. The above statements apply only to motor function. For secretory function the vagus is excitatory while the sympathetics are trophic, but not inhibitory; that is they induce the formation of precursor secretory granules within the gland cell.

The pathogenesis of peptic ulceration has long been thought to be intimately related to autonomic nervous function and several factors have been variously ascribed to be of pre-eminent importance: gastric acidity, peptic activity, muscular spasm and ischemia

of vascular origin. It seems likely that multiple derangements in function of the stomach and duodenum are simultaneously operative and that ulcer formation is possible only when two or more of these functional aberrations are present, for instance, ischemia + acid + pepsin. The threshold for ulcer formation may thus depend upon the degree of overactivity or imbalance, either relative or absolute, of these basic functions which are largely controlled by autonomic nervous outflow. The elements of hypersecretion and motility have been extensively studied in the past. In addition, recent significant work upon the vascular element by Barclay and Bentley¹⁹ revealed the existence of submucosal vascular shunts in the stomach which become manifest as a response to (operative) trauma not only to the stomach but, also more significantly, to other body sites, and can be prevented by sympathetic block or spinal anesthesia. The mucosal ischemia shown by Barclay would be similar to that noted in the renal cortex with the so-called Trueta shunt. About the same time, other investigators reported prevention of duodenal ulcers by sympathetic block prior to the injection of a stressor agent (dysentery toxin) intravenously into dogs²⁰, while ulceration almost invariably occurred without a preceding block.

For the sphincters the motor situation is rather the reverse of that present elsewhere in the G.I. tract and for very sound physiologic reasons. The cardia, pylorus, rectal and internal anal sphincters are maintained in tonic contraction by sympathetic impulses, which also promote a state of decreased tone in the body of the viscus concerned. By comparison, the opposite effect occurs with vagal stimulation just as in the stomach, peristalsis is initiated and the pylorus relaxes to empty the stomach, the stimulus to relaxation being an oncoming contraction wave. The ileocecal sphincter deviates from this rule and has been found to be relaxed by adrenaline or sympathin-like substances.

Perhaps the least understood segment of the visceral autonomic system is the parasympathetic network of postganglionic neurons and nerve plexuses (submucosal and myenteric plexuses of Meissner and Auerbach). It has been mentioned that for the cranial outflow tract (vagal) these postganglionic neurons are quite short and located in the wall of the particular viscus. These plexuses seem quite capable of acting as intrinsic nerve nets with autot-

omous activity when removed from the control of a preganglionic motor fiber such as the vagus nerve. Assumption of such function may explain the gradual restoration of motility and basal secretory activity after vagotomy even though the cephalic stimulus to secretion and motility has been abolished, as evidenced by a lack of response to hypoglycemic stimulation of the vagus. Even with severed preganglionic vagal trunks, these "abandoned" or isolated postganglionic neurons seem to acquire later an intrinsic spontaneous activity after some months⁷.

Recently there has appeared more evidence to substantiate a congenital or acquired absence of the myenteric ganglia of Auerbach at the cardia and lower colon in those cases of cardiospasm, megacolon and Hirschsprung's disease^{12,18}. In such areas there may be a failure in relaxation, thereby creating a block to peristaltic progression by a segment of tonically contracted smooth muscle. This has been shown to be a characteristic sequence of denervation of smooth muscle in lower vertebrates¹⁸. Resection of the involved segment has been reported curative in megacolon¹³, in contrast to the previous unsatisfactory results with sympathectomy. A comparable "splitting" of muscle fibers may perhaps occur with bouginage or hydrostatic dilatation in the treatment of cardiospasm. Recently topical procaine (by ingestion) has been shown to be effective for several hours in the relaxation of the tonic segment of cardiospasm possibly by interrupting transmission at effector nerve endings or by direct action upon smooth muscle²¹.

As an integral part of the sympathetic system it is interesting to note the special anatomic and functional adaptation of the adrenal medula. Here there is no lengthy postganglionic sympathetic nerve, but the preganglionic sympathetic nerve endings terminate directly upon the medullary cells. Significantly, the medullary cells secrete adrenergic substances similar to those liberated at other visceral postganglionic sympathetic endings. This intriguing fact is not coincidental but probably due to the embryologic origin of the medullary or chromaffin cells which arise from sympathetic neuroblasts just as do the sympathetic chain ganglion cells, which are postganglionic neurons. Adrenal medullary cells may therefore be thought of embryologically as counterparts, in this location, to the postganglionic sympathetic neurons in chain and collateral ganglia. With

the knowledge that both medullary cells and postganglionic sympathetic endings liberate adrenergic substances, the developmental point just mentioned indicates that chromaffin cells of the adrenal medulla are uniquely adapted postganglionic neurons in essence, and are supplied with a rich vascular network for a specific function, that is the rapid liberation of adrenergic substances into the systemic circulation for widespread and immediate effect (DeGaris' concept)⁷.

A discussion of cranial-sacral outflow tract would not be complete if the controversy over the extent of the vagus were not mentioned. The older workers believed the vagus innervated the colon to the level of the distal transverse colon. However, it has been found that vagal fibers supply the ascending colon, to a lesser degree the transverse, but not the descending; while the sacral parasympathetic nerves supply the descending and sigmoid colon, to a lesser extent the transverse, but not the ascending¹¹. This arrangement provides a broad zone of overlapping between the cranial and sacral parasympathetics and provides the colon with an arrangement suited better for smoothly integrated function by a gradual transition of control over the intramural myenteric nerve plexuses and nerve nets (postganglionic neurons).

This brings us finally to the neurohumeral effector substances liberated at both pre- and postganglionic nerve endings. The chemical mediator is acetylcholine at all preganglionic endings of both systems and also at parasympathetic postganglionic endings. It is also found at somatic myoneural junctions and at synapses within the substance of the central nervous system.

Recently it has been discovered that cholinesterase (including cholinesterase-like substances) varies at these particular sites both in amount and types¹⁵. That is significant, for it may explain why certain pharmacologic blocking agents have selective affinity for organ systems (Banthine on alimentary tract¹⁶), for autonomic ganglia alone (C₆—or hexamethonium¹⁷) and others have a curariform effect upon striated muscle (C₁₀ compounds)¹⁷. The development of newer and more efficacious blocking agents in the future may depend upon the final elucidation of the chemical nature, specificity and function of these cholinesterases.

An adrenergic agent, sympathin, closely related to epinephrine and neo-epinephrine, is the effector

substance at postganglionic sympathetic nerve endings with the exception of sweat glands.

When estimating final results, it can be seen that the action upon any one visceral organ is determined first by the type of organ (gland or hollow viscus) and the degree of integrated activity in force as compared to that existing normally between the two systems and the net result of these forces. Acetylcholine and the parasympathetics are visceromotor, vasodilator and secretory and adrenergic substances and the sympathetics are visceroinhibitory, vasoconstrictor and non-secretory (but trophic). In intact man no one component can operate to the total exclusion of contraposing forces.

The pharmacologic effects of neurohumeral substances may be better understood by considering the anatomic location where liberated and by noting the effect of various so-called blocking agents or antagonists. This subject is too extensive except to mention that it should be kept in mind that preganglionic endings in both systems are cholinergic and will both be blocked to varying degrees by anticholinergic drugs. Also agents known as choline esters (urecholine and acetyl-B-methylcholine or mecholyl) will substitute for the effect of acetylcholine at the preganglionic ending and will produce both parasympathetic and sympathetic visceromotor effects to varying degrees. Because cholinesterase destroys acetylcholine rapidly, the group of drugs which act by inactivating cholinesterase will also have some sympathomimetic besides parasympathomimetic effects (neostigmine). Thus in vagotomized patients neostigmine has a paradoxical effect and increases the gastric atony by allowing impulses to flow through the sympathetic chain ganglia unchecked. Atropine is said to act as a sympathomimetic drug by preventing the entrance of acetylcholine into the secretory cell²².

Regarding adrenal medullary function as a whole, it may be said that adrenergic discharge produces a mass effect since epinephrine from the adrenal medulla reaches the systemic circulation in large amounts by way of its rich vascular supply and is only slowly destroyed by the oxidase or tyrosinase in the general circulation. In contradistinction, cholinergic discharge generally is confined and local effects predominate. This is because conditions are not anatomically and physiologically favorable for cholinergic substances to reach the general circulation since it is released only at the nerve endings, and to fur-

ther insure only a local action, it is quickly destroyed before diffusion outside these confines would be possible.

Thus one system is adapted in DeGaris' terms, for "fight or flight, the other for conservation, digestion and restoration"¹¹. This arrangement is admirably devised for preservation of a balanced organism during its response to changes in the external environment, thereby contributing to the many endocrine and nervous arrangements that enhance homeostasis.

SUMMARY

A review of currently held concepts on the anatomy and function of the autonomic nervous supply to the gastrointestinal tract is presented. Certain aspects that are pertinent to clinical problems are discussed.

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BASAL CELL EPITHELIOMA IN CHILDHOOD*

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Basal cell epithelioma of the skin is essentially a neoplasm of middle age and later life, and although it has been stated that such lesions may occur at any age, they are distinctly uncommon among children and in the early decades of life. If examples of basal cell epithelioma associated with xeroderma pigmentosum are discarded, the incidence of this tumor in young people is low indeed. The case described below, recently encountered on the Dermatology Service of the University of Virginia Hospital, emphasizes the necessity of being aware that such lesions do occur in children.

REPORT OF A CASE OF BASAL CELL EPITHELIOMA IN A GIRL AGED 14

M.H., a 14 year old white female, was first seen in the University of Virginia Hospital on September 4, 1951, complaining of a small "sore" on the face below the right eye. She stated that it had been present for eighteen months and had been slowly enlarging in spite of various types of local therapy, including antibiotic ointments.

Examination revealed a small ulcerated lesion approximately 1 cm. in diameter over the right malar region just below the outer canthus of the right eye (Fig. 1). It was



Fig. 1—(patient M.H.).—Lesion of right malar region, of 18 months duration.

roughly oval in shape with an elevated, rolled pearly border which exhibited a number of telangiectatic blood vessels. There was a central crater which was somewhat

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depressed and moist. There was no evidence of erythema or obvious infection. The remainder of the patient's skin was normal. The clinical impression was basal cell epithelioma. The patient was referred for surgical excision and microscopic study of the excised tissue.

She was admitted to the University of Virginia Hospital as an in-patient on September 18, 1951, and excision carried out. A full thickness skin graft was used to cover the area. She was discharged in eight days, the graft having taken perfectly. The pathologic report stated that the tumor had been totally removed.

Microscopic examination of the section revealed destruction of the epidermis in the central area of ulceration. Immediately below this ulcer were seen variously sized and shaped masses of "basal cells" with the peripheral cell layers of the masses showing palisade arrangement of nuclei (Fig. 2). Islands of the tumor were seen invad-

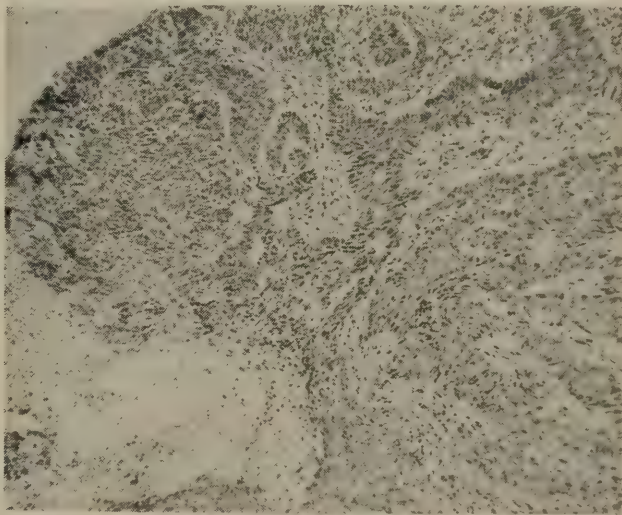


Fig. 2—(patient M.H.).—Low-power view of section from excised lesion.

ing deeply into the corium. In the deeper portions of the lesion there was a slight tendency toward keratinization and abortive attempts at pearl formation. The histologic diagnosis was basal-cell carcinoma with a slight admixture of squamous-cell elements.

DISCUSSION

There is general agreement that basal cell epithelioma is a disease of advanced years and is rarely observed in children. Lesions of this type, however, are occasionally seen during early life and this fact is mentioned in several texts. Kaposi¹ acknowledged the predisposition of advanced age but stated that

he had seen epithelioma in several patients between the ages of eight and 18 years. He failed to qualify the cases further in regard to type or the presence of a pre-existing dermatosis such as xeroderma pigmentosum. Mackee and Cipollaro² also refer to personal observations of a "number of cases in patients between 16 and 22" and illustrate a case of basal-cell epithelioma of the lip of a girl aged 22 with the comment that this was unusually young for epithelioma to develop.

There have been few case reports in the literature citing specific examples of basal-cell epithelioma in childhood or adolescence and various authors have made statistical analyses of large series of cases of cutaneous cancer which indicate that primary basal-cell epithelioma is indeed a rare occurrence prior to adult life.^{3,4,5,6,7,8} Sequeira⁹ in 1912 recorded a case of rodent ulcer on the back of a 12 year old boy which was unusual from the standpoints of both age and location. This patient, however, gave a history of having had a "mole" at the site of the lesion since the age of two. Owen,⁴ in the course of reviewing the microscopic sections from 836 cases diagnosed basal-cell carcinoma, noted that the youngest patient was 18 years of age. In another review by de Cholnoky⁵ only one case below the age of 20 years was reported from a total of 1062 patients with cancer of the face. This lesion was present over the right parotid region of the face of a girl of 19. Zeisler⁸ in 1933 failed to observe a single instance of basal cell epithelioma under 21 years of age in a series of 359 cases.

We feel it worth while to call attention to the fact that basal-cell epithelioma does occur in young persons and to point out that the diagnosis cannot be

discarded on the basis of the patient's age alone. The child whose case is reported above had a basal-cell epithelioma of the skin which was typical from the clinical standpoint, was not secondary to a pre-existing dematosis, and resembled similar tumors seen in older subjects in every respect.

SUMMARY

1. A case of basal-cell epithelioma occurring on the face of a 14 year old girl is reported.
2. Attention is called to the fact that, although relatively rare, basal-cell epithelioma is occasionally encountered in the early years of life.

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RESULTS OF SUBTOTAL GASTRIC RESECTION
FOR PEPTIC ULCER

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Subtotal gastric resection is today the most commonly used method of treating intractable or complicated peptic ulcer. In Norfolk General Hospital during the year 1940, only six gastric resections for peptic ulcer were done. In 1950 there were thirty-two resections, an increase of over 500 per cent. In all the civilian hospitals in Norfolk during the year 1950 there were sixty-six stomach resections done.

It is estimated that there are now living in the City of Norfolk between 300 and 500 patients who have had a subtotal gastric resection. How well are these people adjusted in their environment? How many are in good health and able to carry on their usual occupations?

In an effort to answer these questions, we have reviewed a group of our own patients for a five-year period—from 1946 to 1950. The reason for selecting this group is as follows:

- 1. They were all done by a similar method in civilian hospitals in Norfolk.
- 2. They have been followed for a sufficient period of time to gain a fair knowledge of their adjustments. Most of them have been followed for several years. A few have failed to report after the first year or so and may have developed complications not included here.

From 1946 to 1950, we have had sixty-one resections for peptic ulcer. One patient died eight days postoperatively, presumably from coronary thrombosis; but this must be classified as a surgical death. The surgical mortality was, therefore, 1.6 per cent. The sixty surviving cases are presented as the basis of this review.

The type of surgery which has been used is a modified Hofmeister resection in which approximately two-thirds of the stomach is removed (Fig. 1). The anastomosis is placed anterior to the colon, with a short proximal loop of jejunum. The usual indications were intractability, hemorrhage, perforation, or obstruction. Four cases were done for recurrent or jejunal ulcer after previous surgery. In three of these patients an insufficient amount of stomach

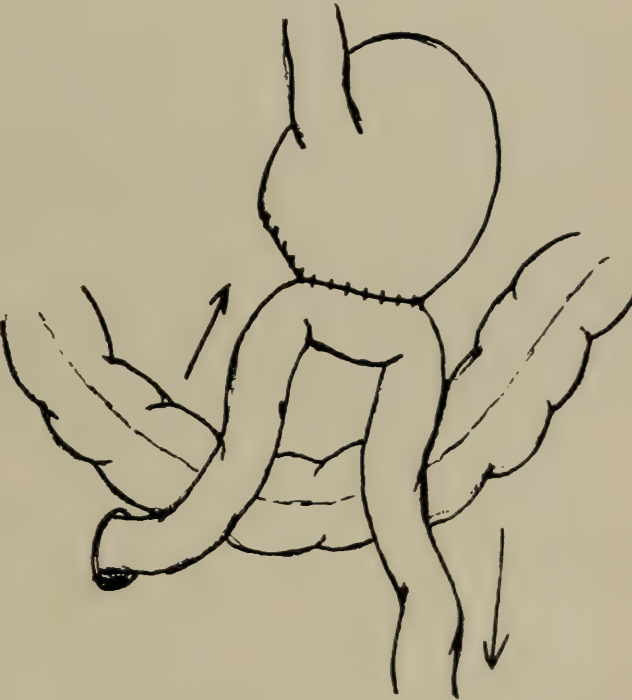
had been removed at the original operations, which were done elsewhere. In one, a gastro-enterostomy had previously been done.

The important late complications observed were:

- 1. Dumping syndrome -----7 patients
- 2. Post-resection gastritis -----4 patients
- 3. Hypoglycemia -----2 patients
- 4. Hemorrhage -----1 patient

(1) Dumping Syndrome

This is a phenomenon which has never been satisfactorily explained. Immediately or soon after



HOFMEISTER

Fig. 1.—Modified Hofmeister resection placed anterior to the colon.

taking food the patient develops weakness, dizziness, sweating, palpitation, nausea, and is forced to lie down.

It occurs most often after breakfast; in fact, it is rarely seen after other meals. The symptoms are very similar to those seen in hypoglycemia and these two conditions have very frequently been confused. An early theory proposed that the rapid emptying of

the stomach produced a sudden rise in blood sugar, which in turn stimulated an unusual mobilization of insulin. With the rapid rise in insulin, hypoglycemia developed, producing the symptoms described above.¹ More recent studies have shown that hypoglycemia does not develop immediately after eating, and that at the time of the attack blood sugar levels are normal or elevated.² Machella³ has been able to reproduce the syndrome by experimentally inflating a balloon in the upper jejunum. He is of the opinion that the attacks are precipitated by hypertonic solutions of foodstuffs, drawing fluid into the lumen of the gut. This would explain why the attacks are more common after a high carbohydrate intake, especially when taken in liquid form.

Radiographically, practically all post-gastrectomy stomachs empty rapidly. Why only a few develop the dumping syndrome is unknown. Some other factor must play a part, possibly a vagotonia, since atropine alleviates the condition. The attacks can usually be prevented by eating only solid food at the beginning of a meal, by eating slowly, by using a diet low in carbohydrates, and by the use of atropine.

The attacks usually subside spontaneously in a few months and are rarely seen as late as one year after operation. While it lasts, it is a most distressing condition, and these patients should not be labeled psychoneurotic.

(2) *Post-Resection Gastritis*

Patients suffering from this condition complain of pain, nausea, nutritional and psychic disturbances. The symptoms are sometimes as bad or worse than the original ulcer, and the response to treatment is poor. The symptoms are made worse by over-eating and by alcohol. In spite of the achlorhydria which is usually present, therapy with hydrochloric acid usually makes the patient worse.

On an ambulatory ulcer type of diet, with vitamin reinforcement, most of them can return to work. They are, however, the most unhappy and dissatisfied group seen following this type of surgery.

Of the four patients who have had post-resection gastritis, only two have continued to have symptoms up to the present time. In these, the symptoms have existed for one and two years, respectively.

(3) *Hypoglycemia*

This condition, as stated above, is frequently confused with the dumping syndrome. The symptoms

are similar, but the time interval is entirely different. Where the dumping syndrome appears directly after eating, hypoglycemia develops two to three hours later. The rapidly emptying post-gastrectomy stomach produces a rapid rise in blood sugar with unusual stimulation of insulin. Since the food passes rapidly through the intestinal tract, the buffering effect of continued absorption is lost. A rebound hypoglycemia subsequently develops with the usual classical symptoms. Why it should happen only in rare cases is unknown.

The treatment of hypoglycemia is much more satisfactory than in the dumping syndrome. A low carbohydrate diet with six small meals daily usually controls the symptoms. Once an attack develops, it is relieved almost immediately by ingestion of carbohydrate, such as candy, Coca-cola, or sweetened orange juice.

(4) *Hemorrhage*

One patient in this group developed a massive unexplained hemorrhage three months after operation. He required hospitalization and blood transfusions. X-rays were negative for jejunal ulcer, and there was no pain as would have been expected with jejunal ulcer. This hemorrhage was attributed to superficial erosion or gastritis, but the cause was not proven.

The patient subsequently returned to work and has had no recurrence of symptoms in the past four and one-half years.

Marginal or recurrent ulcer has been omitted from the list of major complications because there has been no proven case in this group, in so far as we can ascertain. In 1500 cases of subtotal gastric resection reviewed by Rindone,⁴ 14 cases of recurrent ulcer were found, or .8 per cent.

The incidence of recurrent ulcer has been shown to have a definite relationship to the amount of stomach removed at operation. In the rare case that develops after an adequate high resection, vagotomy, is considered the treatment of choice.

In addition to the important complications outlined above, there are a group of lesser disturbances which should be mentioned:

1. Failure to gain weight.
2. Anemia.
3. Dyspepsia and regurgitation.
4. Food intolerance.

(1) *Failure to Gain Weight.* This is a very com-

mon complaint following gastric resection and occurs in over fifty per cent of cases. The etiology is probably related to the rapid passage of food through the intestinal tract. It occurs in spite of a large food intake. It apparently does not affect general health or ability to work.

(2) *Anemia*. This is almost invariably of the secondary hypochromic type and responds well to treatment. We have seen no case of primary anemia. Ivy⁵ reported that in dogs subjected to total gastrectomy and observed for as long as ten years, no case of primary anemia developed.

(3) *Dyspepsia and Regurgitation*. This condition is occasionally seen and is probably related to the reduced size of the stomach, or the reflux of bile into the stomach. The symptoms are made worse by overeating, rapid eating, or by an intake of rich or greasy food. It is usually a time-limited condition which disappears in a few months after operation as adjustment takes place.

(4) *Food Intolerance*. In a few patients, following resection there is a selective intolerance for certain foods. Concentrated carbohydrates are not tolerated well and an aversion to candy is common. This, like many other post-gastrectomy complaints, tends to improve with time, and the patient who two months after surgery complains that he can not eat sweets, will two years later state that he can eat or drink anything.

One interesting complaint that is frequently noted is a profound aversion to milk. Even as late as five

years after operation, an occasional patient will state that milk is extremely distasteful, even though he takes all other foods well.

SUMMARY

A critical review has been made of a group of patients undergoing subtotal gastric resection for peptic ulcer. While some of the results in this group are far from perfect, it must be remembered that surgery was performed only after all other methods of treatment had failed. This report has purposely brought out all of the known unsatisfactory features associated with gastric resection. Of the 61 patients operated upon, 54 or over 88 per cent are known to be working and have been relieved of all important symptoms.

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New Books.

Listed below are some of the newer books in the Tompkins-McCaw Library of the Medical College of Virginia. These are available to our readers under usual library rules.

Bland, John H.—The clinical use of fluid and electrolyte. 1st ed. 1952.

Bond, D. D.—Love and fear of flying. 1st. ed. 1952.

Brody, E. B., Redlich et al.—Psychotherapy . . . with

special reference to schizophrenia. 1st. ed. 1952.

Ciba Foundation Conference—Isotopes in biochemistry. 1st ed. 1951.

Gesell, Arnold L.—The child from five to ten. 1st ed. 1946.

Greenblatt, R. B.—Office endocrinology. 4th ed. 1952.

Parkinson, Roy H.—Tonsil and allied problems, 1st ed. 1951.

Rehfuss, M. and Price, A. H.—A course in practical therapeutics. 2nd ed. 1951.

CLINICOPATHOLOGICAL REPORTS

From the Case Records of the Medical College of Virginia and the
University of Virginia Hospitals

HARRY WALKER, M.D., *Editor*
WILLIAM KAY, M.D., *Associate Editor*

CASE No. A6768

A 36 year old, colored, female school teacher was transferred from a tuberculosis sanatorium to St. Philip Hospital on May 5, 1951, because of recent development of personality and neurologic changes.

She had had no previous significant illness and had been in good health until a routine chest x-ray in February, 1950, disclosed a "round density behind the 3rd rib on the left with linear streaking in the 1st and 2nd left interspaces". This was interpreted as probably tuberculous, but of questionable activity. It was learned that the patient's mother had died in 1937 with pulmonary tuberculosis, but this was the only known contact. Several sputum examinations at this time were negative and the patient was asymptomatic. She was followed as an out-patient for several months and repeated chest x-rays in April and July of 1950 were interpreted as showing no change. In January, 1951, however, progression of the lesion was noted and the patient was then admitted to the sanatorium, still asymptomatic.

At this time the general physical examination was negative except for a small left supraclavicular node. Hemoglobin, urine, and WBC were normal and the sedimentation rate was 20 mm/hr. Flocculation negative. OT 1:10,000 read as 3+ in forty-eight hours. Repeated sputum examinations were negative for acid-fast bacilli, including one culture. Chest x-ray reported as "enlarged hilar shadows on left; extending from this area into the 2nd and 3rd anterior interspaces is an exudative type of lesion".

Pneumothorax was instituted and the patient ran an uneventful afebrile course. She was cheereful, alert, and attended classes regularly in the sanatorium until around the first of April, 1951, when she began to show definite changes in her behavior. Attendants felt that these changes began to develop after the patient witnessed the death of another patient from massive pulmonary hemorrhage. She became rather silly, untidy, and apparently unable to take her temperature or read the thermometer correctly. The patient herself began to complain of a "flickering

in front of her eyes" and occasional stumbling and falling over objects.

On April 20, 1951, neuropsychiatric examination revealed the following: The patient answered questions vaguely and her mood was somewhat silly but not markedly inappropriate. She admitted some depression, mainly in regard to pulmonary disease. She was oriented as to person and place, but poorly oriented as to time and unable to give her age, date of birth, or to subtract serial sevens. The corneal and abdominal reflexes were absent and the deep tendon reflexes were hyperactive. She could not execute heel-to-toe walking or finger-to-nose test accurately, was unsteady on her feet, walking on a broad bases and tending to lean on attendant. No nystagmus or muscle weakness was noted and no sensory changes were demonstrable, though patient complained of tingling of extremities. Other than absent corneal reflexes, the cranial nerves were normal and the remainder of the examination was negative. A lumbar puncture was entirely negative.

She became progressively worse, developed a cough, and complained of severe headache after coughing, and was then transferred to St. Philip Hospital for further study.

On admission temperature, pulse and respiration were normal. Blood pressure 130/80. In addition to the findings noted above, the patient was found to have a rather fixed facies, a slow rhythmic speech, and a positive Babinski on the left. The remainder of the physical examination was negative except for evidence of left pneumothorax.

Laboratory Data: Urine negative. Hemoglobin 11.8 grams, WBC 14,600 with 88 polys. Repeated lumbar punctures showed no abnormalities except for some increase in pressure on third tap. Skull films showed slight thickening of the skull vault throughout with hyperostosis in the frontal, parietal, and occipital regions. A chest x-ray showed a left pneumothorax with some density of the left hilum.

Following admission the patient went steadily downhill, was incontinent, and vomited frequently the first few days after admission. She continued to

complain of headache after coughing. On May 28th a ventriculogram was attempted, but satisfactory filling of the ventricles was not accomplished. Before these studies could be repeated the patient became much worse, developed high fever, tachycardia and expired on June 3, 1951. An autopsy was performed.

DISCUSSION BY DR. E. S. RAY

Briefly, this case was a 36 yr. old colored female who had a routine chest x-ray in February 1950 that revealed a small infiltrative lesion in the left upper lung field. She had no symptoms at the time. Her mother had died of tuberculosis 13 years previously and apparently she had been x-rayed at intervals with the film of February 1950 being the first one to indicate any abnormality. It is understandable how, in view of the Family History of tuberculosis, such a lesion should be interpreted as tuberculosis. Sputum studies for tubercle bacilli were negative. She was followed as an out-patient with frequent x-rays for 5 months with no apparent change. In January 1951 (11 months after the first positive x-ray) there was a definite progression as shown by x-ray but she continued asymptomatic. Because of this x-ray change she was admitted to the sanatorium. Except for a small supraclavicular lymphnode, the physical examination was negative. This is not surprising since the chest film at that time suggested that the lesion was a peripheral mass of some nature and these produce few if any abnormal physical signs. A left lateral film would have been of value not only in localizing the lesion more accurately but also would have more definitely indicated whether this was a peripheral tumor mass or an infiltrative process in the lung — the P.A. film certainly suggests a tumor mass to me. The chest films also revealed that in addition to the pulmonary lesion there was definite enlargement of the left hilum which has the appearance of large lymphnodes. Routine laboratory studies were normal. She had a fairly strong tuberculin reaction but this is of little value in determining the nature of this mass except to indicate that it could be tuberculosis. Sputum studies were again negative for tubercle bacilli even by culture. Tuberculosis apparently was still the diagnosis of her physician and because there was progression of the disease, pneumothorax was induced and as can be seen a good collapse of the lung was obtained but the density in the lung did not collapse, nor did it change its size or shape. She

continued to feel well until April 1951, three months after admission to the sanatorium, when she developed personality changes, complained of visual disturbances, and was noted to stumble and fall on occasions. She complained of headache on coughing and became progressively worse. Because of these changes, which indicated some organic brain lesion, probably a tumor mass, she was transferred to St. Philip. A lumbar puncture was negative except for an increase in spinal fluid pressure—additional evidence of an intracranial tumor mass of some nature. Her headache continued and she began to vomit. Her course was rapidly downhill and she died on June 3, 1951.

With the complete course of this patient's disease available, the diagnosis is obviously one of two diseases: She had either a peripheral bronchogenic carcinoma with metastases to the brain (frontal lobe and probably to the cerebellum), or she had a tuberculoma of the lung with a metastatic tuberculoma of the brain. To me carcinoma of the lung with metastases is the more likely.

I base this on the following facts:

1. The chest film in June 1950 and in January 1951 revealed a fairly well circumscribed lesion of the lung which failed to change either its shape or size following pneumothorax.
2. There were rather large hilar lymphnodes which are more frequently seen in carcinoma than in inflammatory lesions.
3. Evidence of C.N.S. metastases which is a frequent occurrence in primary pulmonary neoplasms and not so frequent in pulmonary infections, such as tuberculosis.

It is possible for one of the granulomatous diseases such as tuberculosis, sarcoidosis or one of the fungus diseases to give this clinical picture but they appear so unlikely to me that I will promptly discard them as possibilities—and hope that they will not be resurrected by the pathologist.

Now, assuming this is carcinoma of the lung, should the diagnosis have been made earlier (and if it had been made earlier could a life have been saved)?

Knowing the complete course of this patient's disease of course gives one a very definite advantage over those who were in charge of this patient at the beginning. In view of this infiltration on this first film taken in February 1950 and with the patient's family history of tuberculosis, I certainly would have

made a diagnosis of minimal tuberculosis, probably active. At that stage of the disease, in view of the negative sputum studies, I believe close observation with monthly chest films and with cultures of sputum and gastric contents for T. B. would have been my way of handling this case. For 5 months the patient was watched closely with frequent chest x-rays.

The statement in the protocol states that the film in July 1950 showed no change. With this I differ as the lesion appears to me definitely more circumscribed and strongly suggestive of a mass rather than an infiltration. (Fig. I) A left lateral film I

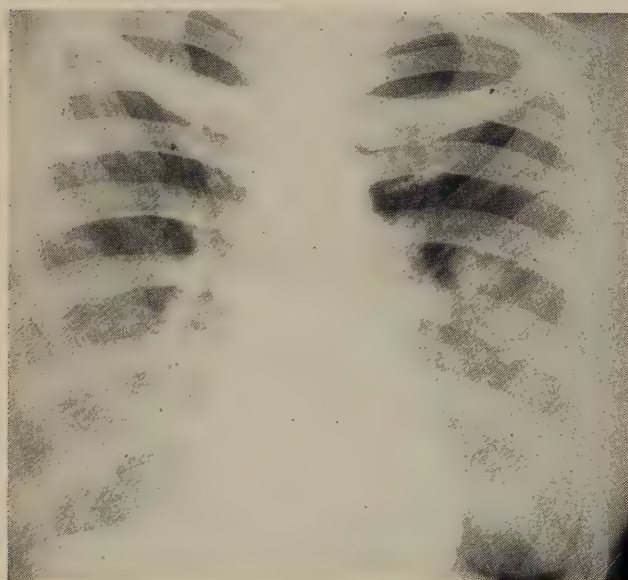


Fig. I.—Appearance of lung lesion July 1950.

believe would have definitely established it as a mass. At this point I believe that hospitalization with bronchoscopy and further bacteriological studies should have been done. Since the lesion appeared as a mass, if tuberculous it would represent more than likely a tuberculoma and since this and a peripheral carcinoma of the lung would be the most likely diagnosis I would have had this patient explored at this time. In January 1951, 11 months after the first positive chest film, there was a definite increase in the pulmonary involvement by x-ray. The lesion appeared more definitely circumscribed and I believe the suspicion of malignancy should have been definitely aroused at that time and it probably was in the minds of those taking care of the patient. However, tuberculosis was still apparently the diagnosis of first choice of her physicians since pneumothorax was induced—although this is sometimes used as a diagnostic measure in determining the nature of a

pulmonary lesion. The failure of the lesion to change either its size or its configuration following the induction of pneumothorax (Fig. II) should have

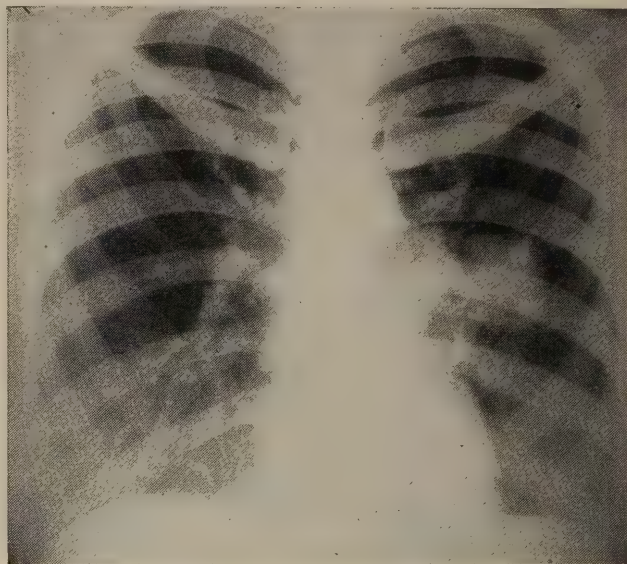


Fig. II.—Chest x-ray (April 1951) after pneumothorax.

further stimulated the suspicion of carcinoma and to the point where bronchoscopy and probably exploration would have been done. Certainly the supraclavicular lymphnode should have been removed. Even assuming the diagnosis of tuberculosis, the response of the lesion to pneumothorax indicated that this form of therapy would not be successful and that pulmonary resection was indicated.

Therefore, I believe that on the basis of the films of July 1950 and the subsequent ones exploratory thoracotomy was indicated. However, in view of the large hilar nodes which, in retrospect, were present on the film of February 1950, I doubt that eradication of the malignancy could have been accomplished if she had been explored following that film.

CLINICAL DIAGNOSIS:

1. Pulmonary tuberculosis
2. ? Multiple sclerosis

ANATOMICAL DIAGNOSIS:

1. Mucus-secreting adenocarcinoma of the lung with metastases to regional lymph nodes, adrenals, spleen and brain.

DR. RAY'S DIAGNOSIS:

1. Carcinoma of the lung with metastasis to brain.

PATHOLOGICAL DESCRIPTION (DR. W. G. REED) A6768—The body for autopsy was that of a thirty-six year old colored female, in fairly good nutritional status. The combined weight of the lungs was 500

grams. The left upper lobe bronchus was partially filled by a firm gray mass which was continuous with a more necrotic mass surrounding the bronchus. Multiple small tumor nodules were found in both lungs. The tracheo-bronchial lymph nodes were involved. The spleen contained a nodule, two centimeters in diameter. There was no gross or microscopic evidence of active tuberculosis. Although nothing was seen grossly in the adrenals, malignant cells were found microscopically. The brain contained multiple metastatic nodules, involving both gray and white matter, the basal ganglia bilaterally, and the ventricular system. The nodules ranged from 0.2 centimeter to 2.5 centimeters in diameter. All of them had glistening blue centers. (Fig. III)

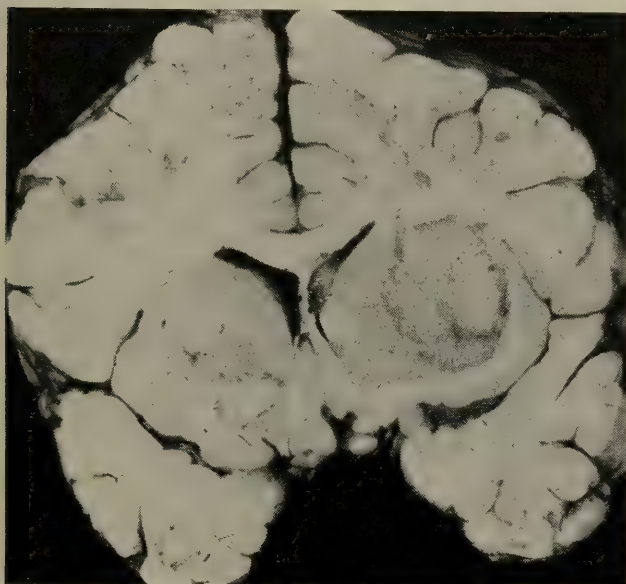


Fig. III.—Coronal section of the brain, showing the glistening metastatic nodules lying in the basal ganglia.

Microscopically, a relatively undifferentiated and pleomorphic adenocarcinoma was found originating in the lung. Frequently, it is a problem to decide whether these tumors arise from respiratory epithelium of the bronchi or from the mucus-secreting glands of the bronchial wall. In this case, no definite transition from normal respiratory epithelium to tumor epithelium could be found. Furthermore in several slides, bronchi are seen, with tumor pushing toward the lumen and destroying epithelium. This gives a distinct impression of origin from mucus-secreting glands. The tumor is arranged in

bizarre and varying sized glandular structures, or as strands and small nests. The cells are moderately pleomorphic and show numbers of mitotic figures. Mucus production is not excessive.

The metastatic nodule in the spleen shows more of the papillary-cystic, mucus-producing characteristics. In the brain, the metastases form definite cystic structures, into the lumina of which project intricately branching papillary processes. (Fig. IV)

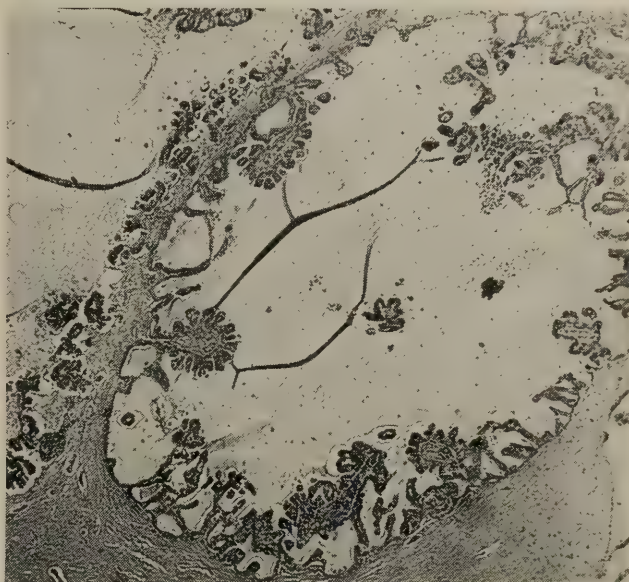


Fig. IV.—Microscopic view of the papillary cystadenomatous structure of the tumor of the brain.

These are lined by pleomorphic columnar epithelium, which has lost its polarity. Large quantities of mucus fill the cysts. This exemplifies the fact that metastatic lesions can take forms much different from the primary tumor. It may well be that the malignant cells formed cysts filled with mucus because the brain tissue offered less pressure resistance to their growth than did the lung.

Metastases to the brain from carcinoma of the lung are exceeded in frequency only by those from carcinoma of the breast.¹

In summary, we have a case of mucus-secreting adenocarcinoma of the lung with metastases to the regional lymph nodes, adrenals, spleen, and brain.

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PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia.

Fluoridation of Public Water Supplies.

The Virginia State Department of Health approves and encourages the fluoridation of public water supplies for the partial control of tooth decay upon assurance that the community complies with the following conditions:

1. Endorsement by the local medical and dental groups concerned.
2. Approval by local health officials.
3. Evidence of public demand as shown by ordinances or resolutions by local governing bodies.
4. An application by the individual, firm, institution, organization or municipal corporation involved for a written permit and obtaining same before beginning fluoridation.
5. Development of plans, specifications, operating procedures and methods of supervision in conformity with requirements to be determined for each individual installation by the State Department of Health.

Two Virginia cities, Lynchburg and Charlottesville started adding fluoride to their water supplies last year. Blackstone, Fredericksburg, Fries, Norfolk, and Richmond have received their permits to begin fluoridation. There are approximately fifteen (15) other communities in the State that have started action towards fluoridation.

Virtually every health association in the country has gone on record favoring fluoridation for communities where water supplies are known to be deficient in fluoride. The House of Delegates of the American Dental Association in October, 1950, unanimously approved a resolution recommending the fluoridation of municipal water supplies to aid in the partial control of dental decay. The American Medical Association last year formally adopted a statement to the desirability and safety of fluoridation.

Dental and public health literature contains a large mass of evidence which demonstrates conclusively that there is approximately three times as much dental decay in children who use fluoride-free domestic water as there is in children who are born and reared in communities whose drinking water contains 1 part per million or more of fluorine. Controlled fluoride water studies conducted in Grand

Rapids, Michigan; Newburgh, New York and Brantford, Ontario, Canada, started in 1945, report similar benefits to children from adding fluoride to their fluoride-free water supplies.

There has been some opposition to fluoridation, however. Most of this opposition has come from misinformed or uninformed persons who claim that fluoridation is "mass medication." Many of the arguments used are so obviously false that they need no answer. Competent research scientists, however, have carefully investigated and reported on many of these assertions. A summary of a few of these assertions and facts follows:

ASSERTION:

Fluorides in the public water supply may have harmful effects on human beings.

THE FACTS:

For generations over 3,000,000 persons in the United States have been living in areas where drinking water naturally contains fluorides in concentrations as high or higher than that recommended for dental health. Many studies have been conducted among these persons by competent investigators and the search has been painstaking, yet no one has been able to find any adverse physiological effect except an enamel defect known as dental fluorosis in areas where the fluoride concentration is several times higher than that recommended for dental health. Every national health group in the nation has attested to the safety of fluoridation.

ASSERTION:

Fluorine is a poisonous substance found in rat poison and insecticides.

THE FACTS:

In large amounts, fluorides are toxic both in humans and in animals. The recommended concentration in the fluoridation of water supplies, however, is neither toxic nor harmful. Chlorine is one of the most deadly gases ever known yet it is safely and effectively used in small amounts to purify drinking water. Many substances in common use by humans such as table salt and baking soda are beneficial when used in controlled amounts but may be poisonous when used in sufficiently large quantities.

ASSERTION:

Fluorides cause or accelerate the growth of cancer.

THE FACTS:

This misstatement results primarily from a mouse cancer experiment conducted at the University of Texas. An investigation of the experiment revealed that the mice under study were a special strain, highly inbred for susceptibility to mammary tumors. Approximately 16 to 100 per cent of these mice eventually succumb to mammary tumors regardless of their diet. Public Health Service investigators and officials of the National Cancer Institute reported that the experiment produced no evidence that there is any correlation at all between fluoridation and cancer development or growth.

ASSERTION:

Fluorides cause an unsightly staining of the teeth.

THE FACTS:

It is well known that high concentrations of fluorides in public water cause a dental fluorosis often called mottled enamel. When the water contains the recommended concentration of fluorides of one part per million, there is evidence of a very mild degree of dental fluorosis in less than ten per cent of children using such water. This degree of fluorosis does not cause staining. It is so slight that it can only be detected by careful dental examination. It usually appears on posterior teeth. It is much more desirable, dentally and socially, than carious teeth.

ASSERTION:

Fluorides will have a harmful effect on the kidneys of adults.

THE FACTS:

The Illinois State Board of Health has found no difference in the data on nephritis in different cities with varying amounts of fluorides in their public water supplies. Studies show that fluorides do not accumulate in the body. The ability of the body to eliminate fluorides is more than adequate for the amount ingested through fluoridated water.

ASSERTION:

Fluorides in the water make the bones brittle.

THE FACTS:

A detailed study of 1,458 high school boys in seven cities with varying concentrations of fluorides in public water supplies showed no effect on bone fracture experience. X-ray examinations of persons living in areas where the water contained from one to three parts per million of fluorides revealed no

evidence of bone fluorosis. No relationship was found between fluorides and bone fractures or height and weight of individuals.

ASSERTION:

Fluoridation of public water supplies is "mass medication."

THE FACTS:

Fluoridation does not constitute medication under the accepted definition of the term any more than chlorination does. Fluoridation does not constitute a remedy. It does not treat an existing disease. Fluoridation supplies a normal constituent found in human teeth and makes fluorine available in the proper amounts for the development of decay-resistant teeth.

ASSERTION:

Fluoridation is "socialized medicine."

THE FACTS:

This obviously ridiculous charge indicated the character of many of the arguments used by opponents of fluoridation. Fluoridation of local water supplies is an accepted and proven measure to protect the dental health of all children. It is no more "socialized medicine" than is chlorination, immunization, pasteurization and the many other disease-preventing procedures in common use today.

ASSERTION:

Fluoridation only benefits children.

THE FACTS:

It is true that in the beginning of a fluoridation program, the greatest benefits will accrue to the younger children. They will continue to enjoy these health benefits throughout their adult life, however, and eventually the entire population of a community will be receiving full benefits from fluoridation. Studies among adults in fluoride areas show that the dental benefits continue throughout life.

MONTHLY MORBIDITY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL				
	May 1952	May 1951	Jan.- May 1952	Jan.- May 1951
Brucellosis	2	7	9	26
Diarrhea and Dysentery ---	27	103	1,042	754
Diphtheria	8	11	44	63
Hepatitis	57	1	303	6
Measles	3,511	3,050	13,068	10,214
Meningitis (Meningococcal) ..	28	15	107	67
Poliomyelitis	0	1	10	15
Rabies in Animals	48	15	269	70
Rocky Mt. Spotted Fever ---	5	7	8	7
Scarlet fever	73	64	454	642
Tularemia	4	2	26	20
Typhoid and Paratyphoid --	3	1	21	19

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,

Commissioner, Department of Mental Hygiene and Hospitals.

The Guidance Clinic as a Community Resource*.

Some forty years ago when guidance clinics first came into being they were established for a particular segment of the community—the delinquent child. The vision for their usefulness was very limited and they were developed as an adjunct of the Juvenile Court to provide a diagnostic service to assist the court in planning for the children who were in conflict with the law. Treatment was not considered to be a part of the clinic's function. Consequently, following the testing and psychiatric examination of the child, a report was furnished to the court, or else the parent was "told what was wrong with the child". Thus, referral to the guidance or psychiatric clinics in the early stages was largely involuntary on the part of the patient and his parents.

The studies and demonstrations by Sigmund Freud proving that early years are the most important in the formation of character traits opened the way for the preventive and corrective treatment of children, as well as adding to the skills of treating the problems of mental illness and adult adjustment. With this impetus given by Freud's work, and acting on the thesis that "childhood is a golden period for mental hygiene", such outstanding men as Dr. Adolph Meyer, Dr. E. E. Southard and others, and such organizations as the mental hygiene societies instigated and implemented the movement to develop guidance clinics with a wider usefulness to the community. They, along with others, recognized that diagnosis without treatment has a very limited usefulness, and that the clinic must take its place as one of the most important agencies in meeting one of the community's major concerns—mental health.

Along with the maturing and refining of treatment skills within the clinics there has been a steady emergence of new attitudes on the part of the public toward mental health, mental illness and emotional disturbance. There is more general acceptance on the part of the public that the person with these

problems needs skilled help just as much as the individual with somatic illnesses needs his physician. Today, a smaller number of parents react as did one father when he was told the doctor advised that his son go to a guidance clinic. This father roared, "Does he think my boy is crazy? If he does, then he's the one that's crazy!" Nevertheless, much superstition still surrounds psychiatry and the guidance clinic, and many people still misunderstand what it means to go to a guidance center. There are others, however, who believe that there is something magical in the clinic's procedures and that once they get a child or an adult inside the clinic's door, all problems will be taken care of in a miraculous manner. This viewpoint does not take into account that there is a universal resistance to change, and that the mechanisms of rationalization and projection can hamper or block treatment, even though they are useful in making the client as comfortable as he is in his present situation. Thus, the skills of the clinic personnel are limited by the patient's desire for treatment and his recognition of the existence of problems. Furthermore, parents frequently have the attitude that they had no part in causing the child to be the way he is no more than they would have caused him to have a toothache. This, of course, is not true.

Let us consider the case of a 14-year-old boy referred to the clinic by his mother on the suggestion of the family doctor. The mother was told that the boy was "sissyfied" and needed help in making a personal and social adjustment. The mother, herself, saw no problem but was afraid not to come to the clinic because it had been recommended by the doctor. The case was accepted for study to determine whether the boy, since he was an adolescent, could be reached. The study revealed that he had good average intelligence, but that he was making a feminine identification, with definite homosexual trends; that he was quite neurotic and was already using somatic complaints as escape mechanisms. The boy himself rejected clinic treatment and denied the existence of any problems and the mother wanted nothing from the center, since she felt that her son

*Article prepared by Reynold D. Farris, Chief Psychiatric Social Worker, Roanoke Guidance Center, Roanoke, Virginia.

was like all other boys. She likes him the way he is. The clinic will continue to be blocked in meeting this boy's needs unless he becomes sufficiently uncomfortable to seek help independently of his mother.

Now let us consider the case of an 11-year-old girl referred to the clinic by her parents on the suggestion of the allergist. This very intellectually superior girl was rebellious, negativistic and reacted to emotional upsets and conflicts with her parents by having severe asthmatic attacks, frequently necessitating hospitalization. The doctor interpreted the emotional aspects of the child's illness to her parents who had already noted that the asthmatic attacks almost invariably followed scenes with her parents. They came to see that their relationship with and handling of the child was a major factor in her illness and were very eager for help. It can readily be seen that the prognosis for successful treatment in this and in similar cases is excellent.

Psychiatric sophistication is not required, but it is imperative that the patient or the parents of children be aware not only of the existence of a problem, but have a willingness to work toward its successful solution. Parents should have some awareness that they play a part in their child's life and because of that they, as well as the child, need help with the child's problems. The solution of the emotional conflicts of a child arising out of relationships within his family requires the simultaneous treatment of both child and parents. There is a teamwork approach to the treatment of children and best results are obtained only when someone interviews the parent while the therapist sees the child. The purpose of these interviews with the parent is to get him to observe himself and to discover the connection between how he feels and acts and how the child behaves. In most parent-child relationships a vicious circle has been set up. For instance, a mother's rejecting, hostile attitude not only contributes to a child's disturbances, but her attitude in turn aggravates the child's destructive and defiant behavior. Thus, successful treatment occurs when a change in attitudes is effected simultaneously in mother and child.

The guidance clinic can be of service in dealing with the problems of emotional and mental upsets that hinder the successful treatment of physical or social disorders with which the physician or others is concerned. Some of the many such instances would be the disturbed pregnant woman, the emotionally aggravated allergic condition, and the child who vomits when upset. This is, however, predicated on the basis that patients are prepared for coming to the guidance clinic and that there has been a proper evaluation of the patient's readiness and willingness for treatment.

The clinic also serves the community by providing a diagnostic service to physicians and agencies in cases where treatment is not indicated. This service is particularly useful in adoption and foster home placement cases. Diagnostic study is also useful to parents and others in planning for the exceptional child and for the child in need of some form of institutional care. Diagnostic service is limited by the demands made on a clinic for treatment service, since treatment is the main function of a guidance clinic. Diagnosis, in most cases, without adequate treatment facilities is relatively valueless, therefore, a clinic must be ready to give the treatment which the patient needs.

Good mental health is the guidance clinic's major concern and the clinic is the community's first bulwark of defense against mental illness and personal and social maladjustments. It achieves this purpose through its understanding of the dynamics of human behavior, and the utilization of the treatment skills of its staff in their teamwork approach to meeting the problems of people. The guidance clinic's unique contribution is that it uses the combined skills of the psychiatrist, psychologists and psychiatric social worker as a "team". However, the "team", as viewed by the clinic, includes not only the staff team but also the patient, his family, his physician and the community's institutions such as schools, churches, and social agencies. All of these working together are required for the promotion of good mental health within the community.

MISCELLANEOUS

Industrial Medicine Program.

Dr. Charles L. Savage of Waynesboro, chairman of the sub-committee on Industrial Health of The Medical Society of Virginia, has called our attention to the following article which appeared in the May issue of Industrial Medicine and Surgery. It was reprinted from The Philadelphia Inquirer of November 25, 1951, and was written by Joseph F. Nolan, Medical Editor.

Preliminary moves with far-reaching implications for expansion of industrial medicine in this area have been made in a joint project of the Chamber of Commerce of Greater Philadelphia and the University of Pennsylvania. Announcement was made recently by Albert M. Greenfield, president of the chamber, and Dr. Harold E. Stassen, president of the University, that a joint committee has been studying the need for expansion of industrial medical service to combat on-the-job illness. With the realization that an immediate need for professional medical service must be met, the announcement said, a long-range program to aid business in establishing in-plant medical services has been developed to give professional attention to the on-the-job illness and thwart any trend toward socialized medicine. The committee reported: "A survey revealed that a great many doctors in private practice within the Philadelphia area devote part time to in-plant work. Also there are quite a number of physicians who are looking for part-time work in industry. All but a few of these physicians are inexperienced in industrial medicine and most of them have little conception of what they would do if a full-time job in a small plant were offered to them." As a result of this survey,

a plan has been developed under which the University's School of Medicine will create a new division for industrial medical activities. The joint statement disclosed that the plan is one of both long-range and short-range objectives. The short-range plan will offer a post-graduate course in industrial health at the University. This course, although not an end to itself, will have a complete curriculum with qualified guest lecturers. Its purpose is to stimulate active interest in a coordinated program of industrial medicine for the Philadelphia area. The long-range program will integrate the industrial medicine viewpoint into under-graduate teaching; extend in-plant medical services to small plants, and maintain clinics to be established in the strategic areas to supplement the in-plant services of small plants by offering complete health services. Commenting on the University's plan, Greenfield said: "The Chamber of Commerce welcomes the opportunity to co-sponsor such an activity which promises new benefits to business as well as to the community at large. Modern business realizes its moral debt to employee's well-being, and business knows that healthy employees are more contented and less prone to absenteeism and avoidable accidents. The loss of full production in these days of emergency is curtailed by an adequate in-plant medical service." Greenfield said the chamber's Safety Council industrial health section would proceed to create further demand for industrial doctors by explaining the needs of industrial medicine to trade executives. The University's post-graduate course in industrial health will start early in 1952. The 12 afternoon classes will schedule pre-eminent medical and technical guest lecturers, specialists in industrial problems.

Planning a Summer Vacation?

Have you made all the necessary preparations?

While you are enjoying your vacation, remember we have a lot of our fellow countrymen fighting our battle in Korea. These fellows would like to be planning a vacation, too. You can help insure a future vacation for them . . . before you take yours.

Call your Red Cross for an appointment to donate a pint of blood for the armed forces before you leave.

Your pint of blood is your gift of life to our fighting men. Plentiful supplies of plasma and blood for the wounded have helped to cut the death rate to about half the rate during World War II.

Make your appointment to save a life now—before you take that vacation. When you get the appointment, keep it. Our GI's keep their appointments in the foxholes of Korea each day. It is easier for you to keep yours at the blood center.

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

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Auxiliary to the Richmond Academy of Medicine.

On May 16, 1952, Mrs. Maynard R. Emlaw was installed by Mrs. Henry W. Decker as President of the Woman's Auxiliary to the Richmond Academy of Medicine at a luncheon meeting held in the Academy Building. Mrs. Gilman R. Tyler was named president-elect and Mrs. William C. Barr was re-elected treasurer.

Other officers elected and installed at the meeting were: Mrs. Custis L. Coleman, vice-president; Mrs. G. Benjamin Carter, corresponding secretary, and Mrs. George K. Brooks, Jr., recording secretary.

New standing committee appointments were: Mrs. Edward S. Ray, "Bulletin" and "Today's Health"; Mrs. L. Benjamin Sheppard, parliamentarian and revisions; Mrs. Virgil R. May, historian; Mrs. Gilman R. Tyler, editorial; Mrs. Alfred L. Smith, legislative chairman; Mrs. Randolph H. Hoge, membership; Mrs. Custis L. Coleman, program, and Mrs. Fred L. Finch, public relations.

Appointments of the special committee chairmen were also made, as follows: Mrs. Hawes Campbell, devotional; Mrs. William F. Grigg, Doctor's Day; Mrs. John E. Stevens, personal relations; Mrs. Hunter Jackson, volunteer work; Mrs. J. E. McGee, social, and Mrs. W. A. Dashiell, ways and means. Also

named were Mrs. L. W. Hulley, Jr., yearbook; Mrs. R. B. Lawrence, nurse recruitment; Mrs. George Snead, civilian defense, and Mrs. J. David Markham, telephone.

A report was made at the meeting on the benefit tea for Sheltering Arms Hospital, given at "Windermere", the home of Dr. and Mrs. Douglas Vander-Hoof on May 9. This benefit tea is an annual affair and the entire proceeds are given to the Hospital; the amount of the check turned over to Mrs. William Frazier, president of the Board of Sheltering Arms, amounted to \$777.00. Nurses from the senior classes of the Richmond hospitals were guests of the Auxiliary at the tea. In addition to its value as a philanthropic project, the tea always proves to be one of the highlights of the Auxiliary year from the sociability standpoint.

The next meeting of the Woman's Auxiliary to the Richmond Academy of Medicine will be held on September 19, 1952.

Northern Neck Auxiliary.

Mrs. Herman W. Farber, of Petersburg, President of the Woman's Auxiliary to The Medical Society of Virginia, was guest speaker at the Spring meeting of the Woman's Auxiliary to the Northern Neck Medical Association, at The Tides Inn, on Thursday, May 22nd. Mrs. Farber discussed the various objectives and committees of the Auxiliary.

Miss Hazel Nibb, of Richmond, Executive Secretary of the Graduate Nurses Association, was also a guest speaker. Miss Nibb spoke to the Auxiliary on "Nurse Recruitment".

The President, Mrs. J. Motley Booker, of Lottsburg, expressed the Auxiliary's pleasure in having Mrs. E. I. Lilly, of Baltimore, present at this meeting and welcomed as a new member, Mrs. Frank Pratt, of Palmer.

BOOK ANNOUNCEMENTS

The Scalp in Health and Disease. By HOWARD T. BEHRMAN, A.B., M.D., Assistant Clinical Professor of Dermatology, New York University Post-Graduate Medical School; Adjunct Dermatologist, Mt. Sinai Hospital; Attending Dermatologist Hillside Psychiatric Institute; etc. 1952. The C. V. Mosby Company, St. Louis. 566 pages with 312 illustrations. Cloth. Price \$12.50.

Bone Tumors. By LOUIS LICHTENSTEIN, M.D., Senior Pathologist, General Medical and Surgical Hospital, Veterans Administration Center, Los Angeles; Formerly Associate Pathologist, Hospital for Joint Diseases, New York; etc. 1952. The C. V. Mosby Company, St. Louis. 315 pages with 155 illustrations. Cloth. Price \$10.50.

Principles of Refraction. By SYLVESTER JUDD BEACH, A.B., M.D., F.A.C.S., Consultant, Staff Main Eye and Ear Infirmary; Chief Ophthalmologist, Portland City Hospital; etc. 1952. The C. V. Mosby Company, St. Louis. 158 pages, illustrated. Cloth. Price \$4.00.

Bacitracin. A Review and Digest of the Literature Up To and Including January 1952. Research Division, S. B. Penick & Company, New York. 127 pages.

Dynamic Psychiatry. Transvestism — Desire for Crippled Women. By LOUIS S. LONDON, M.D. Volume Two. Corinthian Publications, Inc., New York, N. Y. 1952. 129 pages, illustrated. Cloth. Price \$2.50.

Technical Methods for the Technician. By ANSON LEE BROWN, B.A., M.D., Columbus, Ohio. Published by Anson L. Brown, Inc., Columbus, Ohio. 1950-51. xvi-784 pages. Illustrated. Cloth. Price \$10.00.

The book contains chapters covering all fields of clinical pathology. Questions pertaining to each chapter may be well used for periodic checks of the knowledge of student-technologists. The book is an outgrowth of notes taken by Dr. Brown's students and is very useful in his laboratory; however, there was not sufficient effort put into conversion of these notes into a book which could be used by a large group of technologists. Many errors, some of them corrected after printing, make one think that others—some of them important—were not checked.

Methods used in Dr. Brown's laboratory should be brought up to date. They include obsolete tests like

Esbach's method for detection of albumin in the urine, with three identical pictures of Esbach's test tube. Some tests are carelessly described and in the test for sugar in urine, Dr. Brown mentions that 8 drops of urine should be used, but does not determine the amount of Benedict's reagent added to the urine. Normal urine is erroneously described as not having any white, red blood cells and casts; however, we know that such exist in normal urine.

It is commendable that the origin of medical terms is given.

The description of blood cells is not accurate—monocytes do not have nucleoli as Dr. Brown mentions on page 173. The new nomenclature of blood cells is given verbatim as printed in an article in American Journal of Clinical Pathology in 1948. This nomenclature is still not accepted by all hematologists. The color plates with blood cells are very poor. Dr. Brown finds it necessary to include in this test many of his wise sayings and few of great people. This increases the impression that these are notes taken from his lectures. Some procedures are repeated verbatim—so is centrifugalization on page 24 and again on page 45. Many pieces of laboratory equipment are described unnecessarily in detail, giving even the color of the stand of the autoclave (page 48). The author describes in detail Leitz's photoelectric colorimeter, but does not explain the basic principles of spectrophotometry. There is no mention of flame photometry, which is probably not used in Dr. Brown's laboratory.

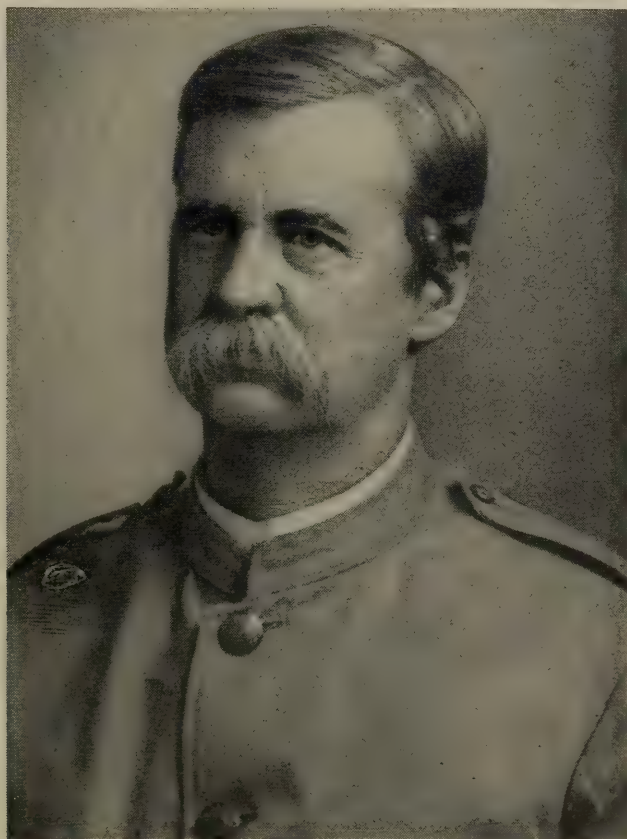
In conclusion, I do not think that Dr. Brown's book can stand the comparison with other books describing the techniques of laboratory tests. It should be limited to Dr. Brown's laboratory. The above mentioned shortcomings would make it hard to recommend this book to medical technologists.

H. G. K.

EDITORIAL

Henry Rose Carter, C.E., M.D. 1852-1925

IT IS remarkable how much of the important work in connection with the conquering of yellow fever was done by Virginians. Dr. Walter Reed, the chairman of the Yellow Fever Commission of the U.S. Army, was born in Gloucester County. Dr. Robert P. Cooke was one of the Commission's "human guinea pigs". He slept for twenty nights in the infected clothing building at Camp Lazear. It should be remembered that at the time, the "fomites" theory was still the most widely held theory and, while it was losing ground, it was necessary to prove or disprove it. At any rate it was a nauseating test. Dr. Cooke is still living in Rockbridge County, the only survivor of the experiments at Camp Lazear. General Gorgas, who put to a practical



Courtesy of Mr. Henry Carter Redd

HENRY ROSE CARTER, C.E., M.D.

test at Havana and at Panama Major Reed's findings, spent his boyhood in Richmond during the Civil War. Finally, there was Dr. Henry Rose Carter, who devoted all his professional life to sanitation in connection with yellow fever and malaria, and whose discovery of the "extrinsic incubation" period greatly facilitated the work of the Yellow Fever Commission.

In 1879, when Dr. Carter was sent to take charge of the epidemic in the Mississippi Valley, knowledge of yellow fever was meagre. It was not contagious in the sense that mere contact was all that was necessary to produce the disease. Some additional factor or factors were necessary. These in some way had to do with temperature, moisture, etc., and people talked of *miasma* and *fomites*, etc. Search was made in vain for

causative bacteria and various organisms. How the unknown contagion was conveyed from patient to patient was a practical but unknown factor. In 1840, Dr. J. C. Nott advanced the idea that it was due to insects. Dr. Carlos Findlay, in 1881, incriminated the *Aedes aegypti*, upon epidemiological grounds. He tried some inoculation experiments to prove his theory but was unsuccessful. In spite of the great amount of work that was done, the situation remained confused. The officers of the U.S. Marine Hospital Service issued a report in 1898 which summed up the situation: "While yellow-fever is a communicable disease, it is not contagious in the ordinary acceptation of the term, but is spread by the infection of places and articles and bedding, clothing, and furniture. This is a process requiring several days (extrinsic infection), and during this period the yellow fever patient is as harmless as one suffering from a surgical complaint. . . . More recently the idea has been advanced that probably the germ of yellow fever enters the general circulation through the respiratory organs in some obscure manner, and incubating in the blood directly poisons this life-giving stream. However this may be, the present opinion is that one has not to contend with an organism or germ which may be taken into the body in food or drink, but with an almost inexplicable poison so insidious in its approach and entrance that no trace is left behind."

When the epidemic at Memphis was over, Dr. Carter was put in charge of the yellow fever situation in the Gulf States. His first major task was to work out effective and simple quarantine regulations. A series of small scattered epidemics that occurred throughout the South was ideal for this work. According to Griffiths (South. M.J. 32:841, 1939) Dr. Carter was well fitted for this task.

On February 26, 1901, Dr. Carter received the following letter from Dr. Reed:

"My dear Dr. Carter:

"Please accept my sincere thanks for the sentiments expressed in your kind letter of February 21st. I value highly your opinion of our work since I know of no one more competent to pass judgment on all that pertains to the subject of yellow fever. You must not forget that your own work in Mississippi did more to impress me with the importance of an intermediate host than everything else put together.

"With best wishes,

Sincerely yours,

WALTER REED"

Not only was he an accurate observer, but he kept records with mathematical accuracy. He was a Bible reading gentleman with model habits and was beloved by all with whom he worked. Consequently it was easy for him to get the state and local health officers to accept the quarantine regulations he had formulated. For the first time in history an epidemic of yellow fever in a favorable environment and in a non-immune population was stopped in mid summer. This happened at McHenry, Louisiana, in 1898. It was at this time that he discovered what he called extrinsic incubation. He soon noticed that a house did not become infectious until 12 to 18 days had elapsed after the first case had appeared. After secondary cases only four or five days were required. This difference Carter named extrinsic incubation. This observation removed an obstacle to accepting Findlay's theory of the mosquito transmission of the disease. In the meantime the Spanish-American War had been fought and won and Dr. Carter had been sent to Cuba as quarantine officer. Yellow fever appeared in the army of occupation. The time had come to settle definitely the etiology of the disease. A Commission was appointed under the leadership of Dr. Walter Reed and, with the aid of Dr. Carter's "extrinsic incubation", Dr. Findlay's mosquito theory was

soon proven by human inoculation, and the fomites theory disproved. The story is so well known that it is not necessary to go into details.

Dr. Carter continued his work in sanitation in connection with yellow fever and malaria in the United States Public Health Service and the International Health Board of the Rockefeller Foundation. His record with the United States Public Health Service runs as follows: assistant surgeon May, 1879; passed assistant surgeon July 1, 1882; surgeon February 1, 1892; senior surgeon, October 15, 1912; assistant surgeon-general by special Act of Congress March 4, 1915. In 1916 he was sent by the Rockefeller Foundation to Central and South America in charge of anti-malarial work and to Peru as advisor to the Peruvian Government in yellow fever prevention. Early in 1922, after his retirement from active duty in the United States Public Health Service, and at the advice of Dr. Wickliffe Rose, Director of the International Health Board of the Rockefeller Board and with material assistance from the Rockefeller Foundation, he began writing *The Early History of Yellow Fever*. He had practically completed this work when he died on September 14, 1925.

Dr. Henry Rose Carter was born at "Clifton" in Caroline County, August 25, 1852, the son of Henry Rose Carter and Emma Caroline (Coleman) Carter. When the future Doctor Carter was a few years old his parents moved to "North River" in Hanover County. The family was in comfortable circumstances until the Civil War rendered them destitute. They were refugees in Amherst County during the Civil War. His first schooling began at home. After the War he attended Aspin Hill Academy in Louisa County. He taught mathematics in an academy in Nelson County until he entered the University of Virginia where he graduated in engineering. Lameness, following a knee injury which was diagnosed as tuberculosis, was thought to preclude his following engineering. Johns Hopkins offered him a scholarship in mathematics, but he refused it because the incidental expense was too great. He taught mathematics in a boys' school in Baltimore and entered the Medical School of the University of Maryland, graduating in 1879. He entered practice with Dr. Charles Vest, a classmate, but they did not meet expenses and Dr. Carter took an examination for the Marine Hospital Service. He was commissioned assistant surgeon in 1879 and was stationed at Cambridge, Massachusetts, but by midsummer he was detached for yellow fever work in the Mississippi Valley. The rest of his life was devoted to the study of mosquitoes and their relation to yellow fever and malaria. He was recognized by his fellow workers all over the world as an authority and in 1904 Sir Ronald Ross proposed his name for the Nobel Prize in medicine.

Dr. Carter married Miss Laura Hook of St. Louis on September 29, 1880. They had three children: Laura Armistead (deceased) who married Admiral Stitt, Henry Rose Carter, Jr. of Birmingham, Alabama, and Edward (deceased). In the last five years of his life his heart condition reduced him to an elevator-cab existence with occasional visits to a hospital. He died of angina pectoris at his home in Washington, September 14, 1925, and was buried in Ashland, Virginia. A memorial service was held by the Norfolk County Medical Society and was addressed by Dr. B. M. Baber, Dr. Hugh S. Cumming, Dr. William S. Thayer of Johns Hopkins, Dr. George B. Young of the University of Virginia, Dr. Lomax Gwathmey, and Judge Thomas H. Willcox of Norfolk. These addresses were reported in the VIRGINIA MEDICAL MONTHLY (53:253, 1926).

TRENDS IN MEDICAL EDUCATION

A GROWING dissatisfaction expressed by students and faculty alike with many phases of medical education has stimulated educators to reexamine the methods and policies currently employed in our medical schools.

The constant expansion of medical knowledge both in the basic and clinical sciences has led over a period of years to the organization of new and complex courses. This constant addition of courses without corresponding subtraction or rearrangement has resulted in a disorderly and oppressive medical curriculum, the value and practicability of which is now being challenged by medical educators. In many institutions the curriculum is being subjected to a thorough overhauling. Committees studying this problem have recommended condensation and better integration of some courses and elimination of others. The importance of teaching organ function in conjunction with structure has been stressed. Simultaneous teaching of the anatomy, physiology, pharmacology and pathology of a single organ or system of organs is being advised or actually attempted in some institutions. Determined interdepartmental efforts are being made to forge teams of basic science instructors and clinicians to teach important clinical problems.

In a talk given at a conference on Medical Teaching Techniques in Washington, D. C., Dr. William Parson of the University of Virginia discussed the need for teaching the teacher. He defined a good teacher as an individual with knowledge, enthusiasm, a capacity for communication, a sympathetic understanding of the student and a desire to assist his pupil to unlimited heights of achievement. He pointed out that too often teachers were chosen on a basis of their research accomplishments rather than their teaching qualifications. Nor is proficiency in the art of public speaking enough, for the teacher through his own personality must stimulate and direct the student.

Much criticism has been directed at the formal lecture. Undoubtedly, medical students are subjected to an unnecessary number of poorly organized and unstimulating lectures. However, the present trend to deemphasize the formal lecture has resulted as much from the deficiencies of the individual teacher as from the fundamental defects of this mode of teaching. Nevertheless, recognition of the inherent limitations of the formal lecture will lead to better balancing of the various teaching facilities available.

The effectiveness of the small conference group as a medium of teaching has long been recognized. The instructor utilizes group teaching to the best advantage when he encourages student participation. Group teaching requires a large and interested staff and the expenditure of a greater effort on the part of the faculty, but the dividends in medical education are correspondingly increased. In view of the personal sacrifices demanded of the conscientious teacher, there would seem to be no place on a medical school teaching staff for those who utilize their appointments for personal gain alone.

Undoubtedly visual aids in various forms have not been sufficiently exploited. Drawings, diagrams, photographs, charts and slides frequently provide an impressive medium for emphasizing certain facts. However, supplemental devices of this type can never substitute for the effectiveness of a good teacher.

At the University of California, under the guidance of Dr. Howard Bierman, an extensive study has been conducted during the past four years to analyze those processes of learning and retention which distinguish the good medical student from the average or poor one. Motivating forces figure prominently in the achievement of the individual. The problem of stimulating, guiding and maintaining these powerful motivating forces throughout the four years of medical school offers a real challenge

to the ingenuity and sympathy of the medical educator. The emotional background of the medical student plays an important role in determining his success or failure during his four years in medical school. Among other interesting facts unearthed in this study is the devastating role of the teacher who consciously or subconsciously antagonizes the students and thus establishes in his listeners a mental barricade against the permanent acquisition of information.

By no means the least important of the factors involved in the development of a good physician is the careful selection of the freshman medical student. Each individual dismissed from medical school may represent not only a failure of the student but also a failure of the admissions committee. Each applicant accepted constitutes a tremendous financial and social investment on the part of the medical school, and all means available must be employed in evaluating the inherent intellectual ability of the applicant as well as his psychological and emotional suitability for a medical career. A record of high scholastic achievement should not serve as the only yardstick for judging the potentialities of the applicant.

L. H. B.

SOCIETIES

Williamsburg-James City County Medical Society.

On March 24, following a social hour at the home of Dr. Granville L. Jones in Williamsburg, the members of the Society were the guests of the Eastern State Hospital for a steak dinner. After the business meeting was called to order by the President, Dr. Baxter I. Bell, miscellaneous business was considered which included the appointment of a Public Relations Committee: Dr. Ben Thomas Painter, Chairman, Dr. Granville L. Jones, both of Williamsburg, and Dr. E. B. Kilby of Toano.

Election of officers for the ensuing year was as follows: President, Granville L. Jones, M.D.; Vice President, Hugh G. Stokes, Jr., M.D.; Secretary-Treasurer, Frances E. Wood, M.D., all of Williamsburg.

The scientific session was a case presentation by Dr. Wendell J. Pile of Williamsburg. Dr. Pile discussed the difficulties in differential diagnosis in a case of avitaminosis and pellagra in which there had been a psychosis and unusual neurological findings.

On May 23 the Society members were the guests of Dr. and Mrs. E. B. Kilby at their home in Toano, for cocktails. The dinner was prepared by the ladies of the Hickory Neck Church and served at the Toano High School.

After the meeting was called to order by the President, Dr. Granville L. Jones, guests of the Society Dr. William Johns and Dr. J. Morrison Hutcheson, both of Richmond, were introduced. Dr. Frederik M. van den Branden who joined the staff of Eastern State Hospital on May 1, was introduced and elected to associate membership. Dr. van den Branden is a graduate of the University of Ghent, a specialist in Dermatology and Syphilology and was also inspector for the state insurance program in Belgium where he practiced before coming to the United States.

Various business matters were taken up including the appointment of Dr. Hugh G. Stokes, Jr., Williamsburg, as medical and technical advisor to the Williamsburg-James City County Ambulance Unit. The Ambulance Unit has done an excellent job in taking care of persons injured in highway accidents and other emergencies in this vicinity, and the Unit deserves to be complimented on its good work.

The guest speaker was Dr. J. Morrison Hutcheson of Richmond. Dr. Hutcheson gave an interesting and informative talk on the subject of hypertension. He discussed past and present ideas in regard to the nature and significance of blood pressure, evaluated some of the methods of treatment of hypertension, and outlined some of his own ideas as to how to manage the hypertensive patient with the knowledge and therapeutic methods at our disposal.

FRANCES E. WOOD, M.D., *Secretary*

Wise County Medical Society.

On May 14, twenty-two enjoyed a dinner meeting and Dr. Leo N. Kirch's lecture on "Bladder Neck Obstructions", and Squibb's cinema on Tolserol. Three applications for membership will be voted on at our next meeting August 13th.

Dr. Geo. B. Setzler, Pennington Gap, who has continued his membership with us, was endorsed for re-appointment to the Virginia Board of Medical Examiners.

Our oldest member, Dr. R. W. Holley, Appalachia, is ill. Sympathy, greetings, confidence were conveyed to him and our president and others will visit him.

T. J. TUDOR, *Secretary*

The Medical Society of the Valley of Virginia

Held its Spring meeting on May the 22nd at the George Washington Hotel in Winchester, under the presidency of Dr. Charles L. Savage of Waynesboro. The program included the following papers:

Banti's Disease Treated Surgically—Dr. William C. Humphries, Woodstock

Trichinosis—Dr. Robert B. Gahagan, Clifton Forge

An Unusual Tumor in a Seven Year Old Girl—Dr. Karl Menk, Staunton

Infectious Polyneuritis—Dr. McKelden Smith, Staunton

The guest speaker was Dr. George P. Whitelaw, Assistant Professor of Surgery, Boston University School of Medicine, whose subject was The Surgical Treatment of Hypertension.

Officers of this Society are: President, Dr. Charles L. Savage, Waynesboro; vice-presidents, Drs. Lewis

K. Woodward, Jr., Woodstock; Richard P. Bell, Jr., Staunton; and Dr. Harry G. Hudnall, Covington; secretary, Dr. McKelden Smith, Staunton; and treasurer, Dr. Harry G. Middlekauff, Weyers Cave.

Richmond Academy of Medicine.

Dr. Guy W. Horsley presided at the meeting of the Academy on May 27, at which time the following papers were presented:

Hormonal Treatment of Alcoholism (report of 265 consecutive episodes in 153 patients)—Dr. R. G. McAllister

Bleeding Due to Circulating Anticoagulants—Dr. Henry G. Kupfer.

At this time, the question was discussed as to instructing delegates to the State meeting as to the Academy's stand concerning the deletion of the word "white" in the constitution of the State Society.

Lynchburg Academy of Medicine.

The regular monthly meeting of the Academy was held on May 12th at the Lynchburg General Hospital.

The meeting was a symposium on "Cancer of the Body and Tail of the Pancreas". The program chairman, Dr. F. R. Whitehouse introduced the several speakers.

Dr. Brickhouse: "A General Outline of Cancer of the Body and Tail of the Pancreas".

Dr. Waters: "X-ray Findings".

Dr. L. R. O'Brian: "Conservative Surgical Treatment".

Dr. J. W. Devine, Jr.: "Radical Surgical Treatment".

Drs. Brownley, Craddock, John Hundley and Whitehouse presented a case each.

EDWIN A. HARPER, *Secretary*.

NEWS

Commencements of Medical Schools.

MEDICAL COLLEGE OF VIRGINIA

Entertainments incident to commencement, with alumni meetings and banquet, were held on June 1, 2 and 3. Preceding the final reception and dance, diplomas were awarded. The names of medical graduates with their hospital appointments are:

MEDICAL COLLEGE OF VIRGINIA HOSPITALS, Richmond—Drs. David Ware Branch, Richmond;

William Carlyle Gill, Jr., Richmond; Carmen M. Jimenez Kaye, Mercedita, Puerto Rico; Thomas Pairo Overton, Richmond; John Stuart Prince, Stony Creek; Herbert Leon Ruben, Norfolk; William White Trigg, Jr., Petersburg; Herbert L. Weinberg, Suffolk; and Louis Reams Wilkerson, Raleigh, N. C.

JOHNSTON-WILLIS HOSPITAL, Richmond — Drs. John Fauntleroy Butterworth, III, Richmond; John William Giesen, Radford; Emily Edwards Jones,

Smithfield; Thomas Roper Travis, Fredericksburg; and Robert William Wash, Jr., Pendleton.

STUART CIRCLE HOSPITAL, Richmond—Drs. Harvey Winfree Goode, Jr., Powhatan; and Peter Weaver Squire, Emporia.

DEPAUL HOSPITAL, Norfolk—Drs. William Cardwell Amos, Jr., Richmond; Earle Jerome Kerpelman, Richmond; Rose Marie Morecock, Richmond; George Oscar Shipp, Norfolk; and David Tyler, Richmond.

NORFOLK GENERAL HOSPITAL, Norfolk—Drs. William Marshall Atkins, Petersburg; Henry Vaughan Belcher, Norfolk; James Wendel Creef, South Norfolk; Jerome Stanley Gross, Norfolk; James B. Kegley, Jr., Waverly; Harvey Pretlow Rawls, Suffolk; James Royster Tarry, Brookneal; Phil Errington Trimmer, Jr., Richmond; Melvin Earl Yeamans, Richmond; and Phillip Clayton Yerby, III, Richmond.

RIVERSIDE HOSPITAL, Newport News—Drs. Elam Withrow Bosworth, II, Brownsburg; Keith Eugene Kinsey, Richmond; and Howard Jackson Maxwell, Lost Creek, W. Va.

WINCHESTER MEMORIAL HOSPITAL, Winchester—Dr. James Robert York, Stephens City.

LEWIS-GALE HOSPITAL, Roanoke—Drs. David Moomaw Brillhart, Troutville; Gene Edward Clapsaddle, Roanoke; Maury Claiborne Newton, Jr., Narrows; and Hubert George Tomlinson, Duffield.

U. S. NAVAL HOSPITAL, Portsmouth—Drs. Channing Lester Ewing, East Lake Weir, Fla.; Carroll Stanford Hamilton, Lynchburg; and Raymond Curtis Houghton, Portsmouth.

PHILADELPHIA GENERAL HOSPITAL, Philadelphia, Pa.—Drs. Benjamin N. Anderson, Jr., Hot Springs; Carey Jones Butler, St. Pauls, N.C.; Stanley Norman Cohen, Richmond; and Richard Ovid Rogers, Jr., Bluefield, W. Va.

McKEESPORT HOSPITAL, McKeesport, Pa.—Drs. Asel Poe Hatfield, Harrisville, W. Va.; Ellis Franklin Maxey, Rustburg; and William Morris Riggins, Jr., Hampton.

U. S. NAVAL HOSPITAL, Bethesda, Md.—Drs. Richard Turberville Arnest, Jr., Hague; Thomas William Turner, Mouth of Wilson; and Frank Quinby Wingfield, Jr., Richmond.

UNION MEMORIAL HOSPITAL, Baltimore, Md.—Dr. Thomas A. E. Moseley, Jr., Richmond.

ST. MARY'S HOSPITAL, Huntington, W. Va.—Drs. George E. Arrington, Jr., Huntington, W. Va.; and

Paul Raymond Kleykamp, Ashland, Ky.

CHARLESTON GENERAL HOSPITAL, Charleston, W. Va.—Drs. Roland Stillwell Birkhead, Glen Ferris, W. Va.; and Fred Lewis Goff, Charleston, W. Va.

OHIO VALLEY GENERAL HOSPITAL, Wheeling, W. Va.—Drs. Donald E. Fleming, Cove Station, W. Va.; and David Zackquill Morgan, Kingwood, W. Va.

MERCY HOSPITAL, Springfield, Ohio—Drs. David R. Brown, Buckhannon, W. Va.; Jean Plunkett Cavender, Buckhannon, W. Va.; Jerill Drexel Cavender, Charleston, W. Va.; Newman Allen Dyer, Charleston, W. Va.; John Alexander Murray, Richmond, W. Va.

SPRINGFIELD CITY HOSPITAL, Springfield, Ohio—Drs. Frank Alexander Hamilton, Jr., Martinsburg, W. Va.; Johnny Ray Hatfield, Gilbert, W. Va.; George Heltzel Hull, Durbin, W. Va.

CINCINNATI GENERAL HOSPITAL, Cincinnati, Ohio—Dr. William Benson McCutcheon, Jr., Durham, N.C.

UNIVERSITY HOSPITALS, Cleveland, Ohio—Dr. Lloyd Ulin Young, Falls Church.

JACKSON MEMORIAL HOSPITAL, Miami, Fla.—Drs. John Edward Bryant, Jr., Franklin; and Leonard Carroll Cantor, Richmond.

STATE OF WISCONSIN GENERAL HOSPITAL, Madison, Wis.—Drs. Robert Oliver Burns, Lebanon; and Ernest Dabney Shackelford, Jr., Richmond.

UNIVERSITY OF TEXAS MEDICAL BRANCH HOSPITALS, Galveston, Texas—Dr. Marshall Jennings Carper, Bluefield, W. Va.

BROOKE ARMY HOSPITAL, San Antonio, Texas—Drs. Powell Graham Fox, Jr., Raleigh, N.C.; and William Alexander Shelton, Keysville.

SCOTT AND WHITE MEMORIAL HOSPITAL, Temple, Texas—Dr. Richard Carl Snow, Hilton Village.

LOS ANGELES COUNTY HOSPITAL, Los Angeles, Calif.—Dr. Ann Shirley Carter, Richmond.

U. S. NAVAL HOSPITAL, San Diego, Calif.—Dr. Kenneth Darte Crippen, Alexandria.

ATLANTIC CITY HOSPITAL, Atlantic City, N. J.—Dr. John Speight Darden, Richmond.

GREENVILLE GENERAL HOSPITAL, Greenville, S.C.—Dr. Albert Pickett Dickson, III, Greensboro, N.C.

UNIVERSITY HOSPITAL, Augusta, Ga.—Drs. Robert Lester Gibson, Richmond; and William Edward Holladay, Jr., Gordonsville.

GOOD SAMARITAN HOSPITAL, Phoenix, Ariz.—Dr. James Lester Grobe, Huntington, W. Va.

CENTRAL DISPENSARY AND EMERGENCY HOSPITAL, Washington, D.C.—Drs. Harry H. Howren, Jr., Richmond; and Jack Amory Lawson, Hampton.

GEORGE WASHINGTON UNIVERSITY HOSPITAL, Washington, D. C.—Dr. Robert Alan Morton, Portsmouth.

FAJARDO DISTRICT HOSPITAL, Fajardo, P. R.—Dr. Juan Francisco Jimenez, Santurce, P. R.

ST. JOSEPH'S MERCY HOSPITAL, Pontiac, Mich.—Drs. Carson Meade Keys, Nathans Creek, N.C.; and Harry Leroy Munson, Richmond.

EDWARD W. SPARROW HOSPITAL, Lansing, Mich.—Dr. Richard Wayne Wingfield Elkins, W. Va.

COOK COUNTY HOSPITAL, Chicago, Ill.—Dr. John Roger McDonough, Irwin.

MICHAEL REESE HOSPITAL, Chicago, Ill.—Dr. Bernard H. Miller, Norfolk.

KINGS COUNTY HOSPITAL, Brooklyn, N. Y.—Drs. Joseph B. Oram, Lester, W. Va.; and Frank Anthony Reda, Jr., Clarksburg, W. Va.

REX HOSPITAL, Raleigh, N.C.—Drs. Bernard Low Patterson, Roanoke; and George Franklin Tucker, Whitakers, N.C.

WORCESTER CITY HOSPITAL, Worcester, Mass.—Drs. Thomas Wirt Sale, Jr., Norfolk and William R. Tabor, Bluefield, W. Va.

UNIVERSITY OF OKLAHOMA HOSPITAL, Oklahoma City, Okla.—Dr. George Alexander Weimer, Bethany, W. Va.

Drs. Kenneth Martin Heatwole, Waynesboro and Eugene Bell Linton, Richmond were also given diplomas at this time.

UNIVERSITY OF VIRGINIA,
DEPARTMENT OF MEDICINE

The final exercises for the 1952 class were held in conjunction with all other departments of the University, degrees being awarded and hospital appointments being announced as follows:

UNIVERSITY OF VIRGINIA HOSPITAL, Charlottesville—Drs. Milton Henry Brockmeyer, Pulaski; Charles Harper Crowder, Jr., South Hill; Jesse Wesley Cumbia, Broadnax; Meade Castleton Edmunds, Jr., Petersburg; James Watts Lipscomb, Huntington, W. Va.; Mary Jane Luke, Covington; Jason Eugene McCellan, Bristol; James Porter McNeil, Jr., Jacksonville, Fla.; William Clarke Pole,

Hot Springs; William Norton Reingold, Norfolk; Beverly Lee Reynolds, Roanoke; and Joseph H. Smith, Newport News.

MEDICAL COLLEGE OF VIRGINIA HOSPITALS, Richmond—Dr. John Girardeau Murray, Jr., Greenville, S. C.

JOHNSTON-WILLIS HOSPITAL, Richmond—Dr. William Harvey Whitmore, Jr., Norfolk.

JEFFERSON HOSPITAL, Roanoke—Dr. Ben Lake Critzer, Pulaski.

DE PAUL HOSPITAL, Norfolk—Dr. Harold Louis Goldman, Norfolk.

NORFOLK GENERAL HOSPITAL, Norfolk—Dr. Fred Wasserman, Norfolk.

PORTSMOUTH NAVAL HOSPITAL, Portsmouth—Dr. George Edward Wire, Jr., Lovettsville.

MASSACHUSETTS MEMORIAL HOSPITALS, Boston—Drs. Kenneth William Berger, Norfolk, and Richard Hardaway Meade, III, Crozet.

PETER BENT BRIGHAM HOSPITAL, Boston, Mass.—Dr. Gustave Lennard Gold, New York City.

N.C. BAPTIST HOSPITAL, Winston-Salem, N.C.—Dr. Albert William Biggs, Memphis, Tenn.

WATTS HOSPITAL, Durham, N.C.—Dr. Donald Wood Glascock, Durham, N.C.

UNIVERSITY HOSPITAL, Chapel Hill, N.C.—Drs. James Eugene Grimes, Winston-Salem, N.C., and Nicholas Armistead Love, Raleigh, N.C.

CHARLOTTE MEMORIAL HOSPITAL, Charlotte, N.C.—Dr. Carter Ashton Sinclair, Bluefield, W. Va.

JOHNS HOPKINS HOSPITAL, Baltimore, Md.—Drs. Frank Stoddert Blanton, Farmville and Armistead Marshall Williams, Richmond.

SAN BERNARDINO COUNTY HOSPITAL, San Bernardino, Calif.—Dr. Loyd Warren Bond, Roanoke.

SOUTHERN PACIFIC GENERAL HOSPITAL, San Francisco, Calif.—Dr. Robert Mercier Hutt, Alexandria.

CEDARS OF LEBANON HOSPITAL, Los Angeles, Calif.—Dr. Robert Stanley Kaplan, Norfolk.

LETTERMAN GENERAL HOSPITAL (Army), San Francisco, Calif.—Dr. James Whitmell Ransone, Bowling Green.

PROVIDENCE HOSPITAL, Detroit, Mich.—Dr. Melvin Hugh Burke, Strasburg.

HENRY FORD HOSPITAL, Detroit, Mich.—Dr. Henry Page Mauck, Jr., Richmond.

OHIO VALLEY GENERAL HOSPITAL, Wheeling, W. Va.—Dr. Quintin Oswald Carr, Broadway.

THE NEW YORK HOSPITAL, New York City—Drs. Randolph Catlin, Jr., and Nelson Glasgow Richards, both of Charlottesville.

LENOX HILL HOSPITAL, New York City—Dr. Robert Earl McConnell, Bristol.

ST. LUKE'S HOSPITAL, New York City—Dr. Gilbert Fletcher Rieman, Virginia Beach.

MEADOWBROOK HOSPITAL, Hempstead, N. Y.—Dr. Jesse Reece Cover, Elkton.

KINGS COUNTY HOSPITAL, Brooklyn, N. Y.—Dr. Martin Paul Fischer, Brooklyn, N. Y.

HARRISBURG POLYCLINIC HOSPITAL, Harrisburg, Pa.—Dr. William Belfield Cave, Madison.

ABINGTON MEMORIAL HOSPITAL, Abington, Pa.—Dr. Richard Thomas Ellison, Jr., Philadelphia, Pa.

WILLIAMSPORT HOSPITAL, Williamsport, Pa.—Dr. William McLaurine Hall, III, Parkersburg, W. Va.

READING HOSPITAL, Reading, Pa.—Drs. James Edward John, Jr., Roanoke, and Carl Ellroy Stark, Alexandria.

PHILADELPHIA GENERAL HOSPITAL, Philadelphia, Pa.—Dr. John Lewis McCain, Southern Pines, N.C.

CINCINNATI GENERAL HOSPITAL, Cincinnati, O.—Drs. Nicholas Edward Davies, Clifton Forge; David Barnes Drewry, Drewryville; and James Bunting Kenley, Portsmouth.

ST. LUKE'S HOSPITAL, Cleveland, O.—Dr. Kenneth Hall Epple, Essex Falls, N. J.

UNIVERSITY HOSPITALS, Cleveland, O.—Dr. William Stuart Greenspon, Bluefield, W. Va.

CITY HOSPITAL, Cleveland, O.—Dr. John Edward Osborne, Miamisburg, O.

UNIVERSITY OF MINNESOTA HOSPITAL, Minneapolis—Drs. James Mitchell Fite, Muskogee, Okla., and Kenneth Stebbins Helenbolt, Medina, N. Y.

MEMORIAL HOSPITAL, Phoenix, Ariz.—Dr. Richard Orville Flynn, Phoenix, Ariz.

GALLINGER MUNICIPAL HOSPITAL, Washington, D. C.—Drs. Robert Humphreys Gruver, Washington, D. C.; Lionel Melvin Lieberman, Front Royal; and James Roger Smith, Ashland.

WALTER REED HOSPITAL (Army), Washington, D. C.—Drs. Harold Hubert Jeter, Jr., Florence, S.C.; and Robert Basye Webb, Jr., Virginia Beach.

ST. ELIZABETH HOSPITAL, Washington, D. C.—

Drs. Harvey David Karkus, Perth Amboy, N. J., and Aubrey Granville Tolley, Lynchburg.

ROYAL VICTORIA HOSPITAL, Montreal Canada—Dr. Euclid Murden Hanbury, Jr., Portsmouth.

JEFFERSON DAVIS HOSPITAL, Houston, Texas—Dr. Eugene Wilder Heatwole, Staunton.

UNIVERSITY OF TEXAS HOSPITALS, Galveston—Dr. Marion Moore Sherman, Hampton.

TRIPLER GENERAL HOSPITAL (Army), Honolulu, Hawaii—Dr. Holcombe Harris Hurt, Jr., Lynchburg.

SAN JUAN MUNICIPAL HOSPITAL, San Juan, Puerto Rico—Dr. Arturo Torres Machin, San Lorenzo, P. R.

MICHAEL REESE HOSPITAL, Chicago, Ill.—Dr. Edgar Elliott Peltz, Hampton.

MEMORIAL HOSPITAL, Wilmington, Del.—Drs. Hugh Walter Rule, Kingsport, Tenn., and Edward Ashby Woods, Jr., Pedlar Mills.

FT. SANDERS HOSPITAL, Knoxville, Tenn.—Dr. Charles Hallacy Spencer, Tunica, Miss.

Medical College of Virginia Alumni Association.

Meetings of the Alumni Association of the Medical College of Virginia were held under the presidency of E. Claiborne Robins of Richmond. Dr. H. Hudnall Ware of Richmond succeeded to the presidency and Dr. J. Asa Shield of Richmond was named president-elect. Mr. J. Curtiss Nottingham and Dr. Harvey B. Haag, both of Richmond, were re-elected secretary and treasurer, respectively. Miss Anne Skinner remains executive secretary. New members of the board of trustees elected are: Dr. James T. Tucker, Richmond; Dr. E. L. Alexander, Newport News; W. Roy Smith, Petersburg; Dr. Donald S. Daniel, Richmond; Dr. William N. Hodgkin, Warrenton; and Miss Frances Gordon, Richmond.

Announcement was made of the fact that two alumni would be awarded honorary degrees at the Commencement exercises on the 3rd: The degree of Master of Science in General Medicine to Dr. Walter C. Caudill of Pearisburg, a former President of The Medical Society of Virginia; and the degree of Master of Pharmacy to Mr. Ralph R. Rooke of Richmond.

The Association awarded special pins to the surviving members of the class of 1902 of the College and of the former University College of Medicine.

The Virginia Society of Ophthalmology and Otolaryngology

Held its annual Spring meeting at the Ingleside Hotel, Staunton, May 3, under the presidency of Dr. Robert H. Courtney of Richmond. Papers were presented by invitation by Dr. Conrad Behrens of New York on The Relationship of Some Ocular Disturbances to Reading Disabilities, and Joe Shimpugh of the Virginia School for the Deaf and Blind at Staunton gave a Demonstration of Speech and Lip Reading, Language and Auditory Training as Taught to the Deaf Child.

After an intermission, the papers were presented by members as follows:

Errors in Management of Foreign Bodies of Food and Air Passages—Neil Callahan, M.D., Norfolk

Diagnosis of Intraocular Tumors—Edwin W. Burton, M.D., Charlottesville

The Management of Complications of Fenestration Surgery—Houston L. Bell, M.D., Roanoke

Following luncheon, a business session was held. Dr. A. D. Morgan of Norfolk succeeded to the presidency and the following were selected to serve with him: President-elect, Dr. Peter N. Pastore, Richmond; vice-president, Dr. M. K. Humphries, Jr., Charlottesville; secretary-treasurer, Dr. G. S. Fitzhugh (re-elected), Charlottesville.

The fall Clinical Session (Postgraduate) meeting will be in Charlottesville, November 18-1, 1952, and the spring meeting of the Society will be held with the West Virginia Academy of Ophthalmology and Otolaryngology on May 4 and 5, 1953, at Hot Springs, Virginia.

The West Virginia Academy of Ophthalmology and Otolaryngology

Held its fifth regular session at the Greenbrier, White Sulphur Springs, West Virginia, on May 12-13, 1952. The scientific program opened with Dr. Peter N. Pastore from the Medical College of Virginia, Richmond, who presented a paper on "Otitis Media and Mastoiditis Today". This was followed by a paper by Dr. Albert C. Esposito, Huntington, of "Malignant Melanomas of the Eye" and then Dr. Edward B. Holms of Parkersburg, presented a paper on the "Use of the Radium Pharyngeal Applicator in Office Practice."

On the second day the program started with Dr.

John E. Bellows of Northwestern University, Chicago, who presented a paper on "Senile Changes in the Crystalline Lens." This was followed by a paper by Dr. J. A. B. Holt, Charleston, on "Plastic Procedures Included in Submucous Resection of the Nasal Septum", and the final paper was presented by Dr. Thomas Goodwin of Elkins, on "Why Use Mydriatics in Refraction."

The President-elect of the Virginia Academy of Ophthalmology and Otolaryngology was a guest at this meeting and he extended to the West Virginia Society an invitation for them to hold a combined session of both the Virginia and West Virginia Societies which will be held in Hot Springs, Virginia, the first week in May, 1953. This invitation was accepted by the West Virginia Academy.

News from the State Health Department

Dr. James M. Suter has been appointed Assistant Director of Local Health Services in charge of the Southwest District to succeed Dr. V. A. Turner.

Dr. R. W. Jessee, Health Officer who has been on scholarship status, has returned to duty and has been assigned to the Russell-Wise Health District with headquarters in Norton.

Dr. Ben Storer has been appointed Health Officer of the Smyth-Washington-Bristol Health District, and will assume his duties about July 1, 1952.

Dr. Charles M. Wylie, Health Officer who has been on educational leave, has returned and will begin his duties as Health Officer of Buena Vista-Lexington-Rockbridge Health District, effective July 1, 1952.

University of Virginia Department of Medicine News.

Dr. Fred H. Wilke, New York, class of '26 Medical Department, presided at the meeting of the Medical Alumni Association. Dr. J. William Hinton, class of '19, now professor of surgery and chairman of the department of surgery of the New York University Post-Graduate Medical School, gave the special address. Dr. Harry B. Taylor, who had spent forty-five years of his fifty since graduation as a medical missionary to China, was speaker at the medical alumni banquet on June the 6th.

Dr. Oliver B. Bobbitt has been appointed Director of the Clinical Laboratories of the University of Virginia Department of Medicine and Chairman of Clinical Pathology. A medical graduate of the

University in 1943, Dr. Bobbitt has served for the last five years with Dr. William Edward Bray, Professor of Clinical Pathology who retired July 1.

Dr. Arthur Ebbert, Jr., has been appointed Assistant to the Dean of the University of Virginia Department of Medicine and Instructor in Internal Medicine. A medical graduate in the University class of 1946, Dr. Ebbert served last year as Internal Medicine Resident.

Dr. Vincent Hollander, a member of the staff of the Sloane-Kettering Institute of the Memorial Cancer Center, New York City, will join the faculty of the University of Virginia Department of Medicine, January 1, 1953, as Assistant Professor of Internal Medicine and Coordinator of the Cancer Program.

Dr. Quentin Myrvik, Research Fellow in the Department of Microbiology of the University of Washington School of Medicine, has been appointed Assistant Professor of Microbiology at the University of Virginia Department of Medicine.

Three appointments to the faculty of Neurology and Psychiatry of the University of Virginia Department of Medicine are Dr. Charles A. Finnigan as Assistant Professor in charge of the new psychiatric out-patient clinic which was opened July 1, Dr. William D. Buxton and Dr. Cary Suter as Instructors.

The third Medicinal Chemistry Symposium of the American Chemical Society was held at the University of Virginia June 12-14.

Plans have been made for continuation of the post-graduate conferences for general physicians of the state at the University of Virginia. The conferences will be devoted to cardio-vascular disease, problems of infancy in general practice and diabetes.

Calendar of Meetings.

In this time of ever-increasing activity in medical organizations, the problem of conflicting meeting dates has become apparent. Often attendance at medical meetings is poor for no other reason than an allied group has unknowingly scheduled the same date.

Much of this confusion can easily be avoided. Immediately after a special meeting is planned, notify the State Society and the announcement will be published in the MONTHLY. On the other hand,

always consult the MONTHLY before setting a date.

News must be received by the fifth day of any month to appear in the next month's edition.

Dr. M. B. Lamberth, Jr.,

Kilmarnock, has been elected president of the Lancaster County Lions Club for the coming year.

Dr. Montie L. Binder,

Internal medicine specialist in Newport News, has been named city and jail physician of that city, effective June 1, succeeding Dr. Thomas D. Morewitz, resigned.

Dr. William S. Sloan,

Petersburg, has been named as chairman of the American Red Cross Chapter of that city for the coming year.

Resign as Physicians with City of Richmond Service.

Dr. M. R. Emlaw, has resigned as part-time physician at City Home. Dr. George Benjamin Carter succeeds him.

Dr. Leonard D. Polikoff has resigned as medical examiner in charge of medical service for city employees. His place has been taken by Dr. Robert Miskimon who had been his assistant, and Dr. Richard Norton Baylor is the new appointee.

American College of Surgeons' Clinical Congress.

New surgical techniques and clinical developments will be presented at the 38th annual Clinical Congress of the College to be held in New York City September 22 to 26. More than 9,000 surgeons from all over the world are expected to attend the program of panel discussions, symposia, surgical forums, motion pictures, cine clinics, color television and exhibits. Headquarters will be at The Waldorf-Astoria. Dr. Frank Glenn, Surgeon-in-Chief, New York Hospital, is Chairman of the New York Committee on Arrangements.

Dr. Alton Ochsner of New Orleans, 1952 President of the American College of Surgeons, will preside at the opening evening session at which Dr. Harold L. Foss of Danville, Pennsylvania, will be installed as President for the year 1953. Dr. Evarts A. Graham of St. Louis is Chairman of the Board of Regents and Dr. Paul R. Hawley of Chicago is the Director.

Richmond Chapter, M.C.V. Alumni.

Dr. R. Campbell Manson was elected president of the local chapter, Medical College of Virginia Alumni at a meeting the middle of May. Wilhelm Haag was elected vice-president, and Dr. W. Yates League was named secretary-treasurer. Elected to the board of directors were Dr. W. Tyler Haynes, retiring president, Dr. E. Bowie Shephard, and Mrs. Jennie Caulkins.

Retirement of Two Veteran Salesmen, with Total of 87 years of Service, Announced by Parke, Davis & Company

Retirement of two veteran salesmen of Parke, Davis & Company, with a total of 87 years of service to the pharmaceutical firm, has been announced.

One of the men has served under six of the company's seven presidents. He is Alan Stuart, who joined Parke-Davis March 1, 1906, in the shipping department.

The other man has served under five Parke-Davis presidents. He is Frank G. Ebner, who started out as a salesman in Milwaukee September 1, 1910.

Harry J. Loynd, president, said both "have earned most happy and enjoyable periods of rest and retirement."

Dr. Raymond Brown,

Gloucester, has been named president of the Gloucester Lions Club for the coming year.

News from the Medical College of Virginia.

Commencement exercises closing the 115th session were held June 3 with 308 in the graduating classes: 102 in medicine; 48 in dentistry; 45 in pharmacy; 64 in nursing; 38 in physical therapy; 7 in hospital administration; three master of science degrees, and the first doctor of philosophy degree awarded by the college in its history. Dr. Walter C. Caudill of Pearisburg, former president of The Medical Society of Virginia, was awarded the honorary degree of Master of Science in General Medicine.

At the Commencement exercises it was announced that gifts and grants for the fiscal year 1951-52 thus far total \$2,843,597.42. Included in this figure was the bequest of \$2,250,000 from the late Adolph D. Williams of Richmond. Interest on about one and a half million dollars of the bequest is to be used for medical scholarships and fellowships; interest on the

balance will be used for patients in the outpatient clinic. The outpatient clinic of the college by unanimous vote of the Board of Visitors of the college has been designated the A. D. Williams Memorial Clinic.

The college now has under construction: Randolph-Minor Hall, teaching unit and dormitory for nurses to be completed in July; cost equipped \$687,000; the Wood Memorial Dental School Building, to be completed in 1953, approximate cost equipped \$1,847,000. Funds are now available for a \$250,000 addition to McGuire Hall and \$1,875,000 for a hospital for the surgical treatment of Negro T. B. patients jointly with the State Board of Health.

Mr. C. P. Cardwell, Director of the Hospital Division, has been installed as president of the Virginia Hospital Association.

Dr. Harvey B. Haag, Professor of Pharmacology, is president-elect of the American Society for Pharmacology and Experimental Therapeutics.

Dr. R. Finley Gayle, Jr., Professor of Psychiatry and Neurology, has been elected secretary of the American Psychiatric Association for the third successive year.

The first Wortley F. Rudd Memorial Lecture honoring the late dean of the school of pharmacy was held May 15, with Dr. J. Harold Burn, Professor of Pharmacology, University of Oxford, as the guest lecturer.

Major faculty promotions effective July 1 are as follows:

- Dr. Erling S. Hegre to Professor of Anatomy
- Dr. H. Wallace Blanton to Associate Professor of Clinical Medicine
- Dr. Edward S. Ray to Associate Professor of Medicine
- Dr. William R. Kay to Assistant Professor of Clinical Medicine
- Dr. Arthur Klein to Assistant Professor of Clinical Medicine
- Dr. Howard McCue to Assistant Professor of Clinical Medicine
- Dr. J. Warrick Thomas to Assistant Professor of Clinical Medicine
- Dr. Charles E. Troland to Professor of Clinical Neurological Surgery
- Dr. William Durwood Suggs to Associate Professor of Clinical Obstetrics

Dr. Edwin L. Kendig, Jr., to Assistant Professor of Pediatrics
 Dr. Carolyn McCue to Assistant Professor of Pediatrics
 Dr. Patrick H. Drewry, Jr., to Professor of Psychiatry
 Dr. Merritt W. Foster, Jr., to Assistant Professor of Psychiatry
 Dr. Lucy S. Hill to Assistant Professor of Psychiatry
 Dr. A. Ray Dawson to Associate Professor of Clinical Physical Medicine and Rehabilitation
 Dr. Edward M. Holmes, Jr., to Professor of Community Medicine
 Dr. Paul W. Bowden to Associate Professor of Community Medicine
 Dr. Hunter B. Frischkorn, Jr., to Assistant Professor of Clinical Radiology
 Dr. George A. Welchons to Assistant Professor of Clinical Radiology
 Dr. Saul Kay to Professor of Surgical Pathology
 Dr. Leroy Smith to Associate Professor of Clinical Surgery
 Dr. R. C. Siersema to Assistant Professor of Clinical Surgery
 Dr. W. Glenn Reed to Assistant Professor of Pathology
 Dr. M. Josiah Hoover to Associate Professor of Orthopedic Surgery
 Miss Susanne Hirt to Associate Professor of Applied Anatomy
 Miss M. Katharine Cary to Assistant Professor of Pathology
 Miss Hazel Irvin to Assistant Professor of Clinical Pathology
 Mrs. Louise Loving Jones to Assistant Professor of Anatomy
 Dr. Alton D. Brashear to Professor of Anatomy
 Dr. James E. McIver to Associate Professor of Denture Prosthesis

American Congress of Physical Medicine.

The 30th annual scientific and clinical session of the Congress will be held on August 25, 26, 27, 28 and 29, 1952 inclusive, at The Roosevelt Hotel, New York, N.Y. All sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, annual instruction seminars will be held. These lectures will be open to physicians

as well as to therapists, who are registered with the American Registry of Physical Therapists or the American Occupational Therapy Association.

Full information may be obtained by writing to the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

Added to Sandoz Field Staff.

Sandoz Pharmaceuticals announces the addition of several field representatives who have completed their training and are now in their new territories. Mr. Charles Halloran is the one who will have headquarters in Richmond and cover Richmond and the surrounding area.

Postgraduate Gastroenterology Course.

The National Gastroenterological Association announces that its Fourth Annual Course in Postgraduate Gastroenterology will be given at the Hotel Statler in New York City on 23, 24, 25 October 1952.

As in past years the Course will again be under the direction and co-chairmanship of Dr. Owen H. Wangenstein, Professor of Surgery of the University of Minnesota Medical School, who will serve as surgical co-ordinator and Dr. I. Snapper, Director of Medical Education of The Mt. Sinai Hospital, N. Y., N. Y., who will serve as medical co-ordinator. They will be assisted by a distinguished faculty selected from the medical schools in and around New York City.

One complete session will be devoted to a Clinical Pathological Conference at the Mt. Sinai Hospital in New York City.

For further information and enrollment write to the National Gastroenterological Association, Department GSJ, 1819 Broadway, New York 23, N. Y.

The New Medical Center at Louisa.

A combination health and medical Center, was dedicated on June the 15th. One wing of the one-story building will be occupied by the Louisa County Health Department and the basement will have office space for physicians and a dentist. The Center will have twenty-three beds, including an isolation ward, a delivery room, and emergency operating facilities. The Center's staff will be composed of Drs. H. W. Judd, E. B. Pendleton, H. S. Daniel, John W. Barnard, T. E. Stanley, Griffith B. Daniel, Evelyn P. Daniel, M. T. Lowry, Stuart W. Selden, and Charles K. Perkins, dentist.

Medical Resident Wanted.

Beginning July 1, fully approved 165-bed general hospital has opening for Medical Resident. Stipend \$150 a month and maintenance. Address "Medical Director" C. & O. Hospital, Huntington, W. Va. (*Adv.*)

For Sale—

Wappler Jr. Vertical Fluoroscope, Serial #30583—\$150.00; G.E. Model "B" Electrocardiograph, Serial #128920, Type (2)—\$25.00; One very tall heat

lamp—\$10.00; All are in perfect condition with a lot of good film for E.K.G.

May be seen by contacting Miss Imogen Reynolds, Caldwell, West Virginia. (*Adv.*)

Wanted—

Experienced Superintendent of Nurses and Laboratory Technician for a small hospital. A satisfactory salary with maintenance. Lebanon General Hospital, Lebanon, Va. (*Adv.*)

OBITUARIES

Dr. Edmund Pendleton Tompkins,

Prominent in medical circles in his section and an enthusiastic researcher and recorder of the history of Rockbridge County, died May 26 after a short illness. He was 83 years of age and a graduate of the Medical College of Virginia in 1897. He began practice in Rockbridge County but, after a post-graduate course, located in Roanoke and while there served a term as president of the Roanoke Academy of Medicine. In 1925 he located in Lexington and had practiced there until his 82nd year. He was coroner of Rockbridge County for many years and founded and was active in the Rockbridge Historical Society. He had for many years been a member of The Medical Society of Virginia in which he also held Life membership. He is survived by his wife and two sons, doctors who are located in San Francisco and in Oklahoma City.

Resolutions on the Death of Dr. William S. Snead

Dr. William S. Snead, whose death occurred on April 3, 1952, was one of the prominent practitioners of Newport News. He was born in Spotsylvania County February 8, 1886.

After early education in local schools, he attended the Oakland Academy for a year and then William and Mary College for three years. His father's death in 1906 caused the lapse of a year. He entered the Medical College of Virginia in 1907 and graduated in 1911. He practiced medicine in Lunenburg County in 1918 prior to coming to Newport News,

Virginia in March of that year, where he practiced until his death.

Dr. Snead had been associated with the Riverside Hospital since coming to Newport News and was on the surgical staff.

In May, 1908 he married Miss Marie Gordon Morris of Newport News. They had three children, two sons and a daughter, who survive him.

WHEREAS, Newport News has lost an outstanding physician and a member of this community,

BE IT RESOLVED: That these resolutions be entered in the minutes of the Medical Staff of the Riverside Hospital, and a copy of same be sent to the VIRGINIA MEDICAL MONTHLY, and to the family.

Committee:

WILLIAM O. POINDEXTER

J. HUGHES MABRY

EDWARD B. MEWBORNE, *Chairman*

Dr. Elton A. Ratcliffe,

Richmond, died May 30th, after having been in bad health for sometime. He was sixty-three years of age and a graduate of the Medical College of Virginia in the class of 1915. He was a Mason and a member of The Medical Society of Virginia. His wife and a daughter survive him.

Dr. Travis Barton Twyman

Died May 14th at his home at Locust Dale. He was sixty-five years of age and had graduated from the Medical College of Virginia in 1908. He had not been engaged in active practice for sometime. His burial was with Masonic rites. Two sons survive him.

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GUEST EDITORIAL

Unjust Criticisms of the Rural Practitioner

MANY times the general practitioner who does rural practice is severely criticized for the poor grade of medicine which he practices. Without a doubt, some of the work which he does justly merits this criticism. There are, however, certain circumstances which should be considered before too much blame is attached to him.

In this brief article, it is proposed to take some of the common objections to the work of the rural practitioner and give rebuttal.

I. THE COUNTRY PHYSICIAN DOES TOO MUCH WORK TO DO IT WELL

Many times this is very true. The writer has had opportunity to talk with many physicians in larger cities and has been shocked at their lack of understanding of the reasons for this although they seem self-apparent.

When one is practicing in the city, there is in most cases an ample supply of brother physicians. It is quite easy to allow any excess patients to go elsewhere and it is easy to get a colleague to take over for a day or two quite frequently. In the average small town, one just cannot do this. May I cite a crude example: When Mrs. Jones, whom you have known for ten years, calls up very frightened about her baby, you see the Jones baby without regard to how hard you work. You have to. There is nobody else.

One certain way for the rural physician to lose the confidence of his patients is for him to start limiting his practice without regard to what work needs to be done. The only answer to this is to get more men into the rural areas. Those who are already there are grossly overworked and, in the author's opinion, are doing a splendid job with the time they have.

It certainly does not help to criticize a man who is doing his best to perform a staggering task. When one sees a problem that has not had proper consideration before referral, it is well to remember that lack of time, not lack of knowledge, may be the cause.

II. A COUNTRY DOCTOR DOES NOT KEEP UP

Undeniably this criticism is justified in some instances. Equally undeniably, the criticism arises mainly from a difference in viewpoint.

The average general practitioner has not the time to become cognizant with the latest trends of research. His scope of work makes it necessary that he be interested mainly in the practicalities of any situation. Reading time is limited. True, many men take a few tentative trials at plunging into literature and then give the whole thing up as a bad job. By and large, however, the majority of rural physicians do what reading and study they can.

To repeat: of necessity this reading must be intensely practical in nature. Because a man does not know the advanced research in a subject does not mean that he is ignorant.

It is surprising that in this day of flourishing medical periodicals there is very little literature directed to and entirely suitable for the general practitioner. By far the majority of all that is published is written without knowledge of, or without consideration for, intensely practical aspects of the subject.

Until quite recently, the general practitioner was the great forgotten man of medicine. He was the draft horse—and all the attention was given to the race horses. Only within the past decade has an intensive effort been made to bring the advantages of postgraduate training to the general practitioner on a large scale. Results have been so very gratifying that plans are under way in a score of institutions to enlarge the scope of general practice postgraduate education.

III. THE GENERAL PRACTITIONER DOES NOT REFER CASES SOON ENOUGH

There is a basis for this statement in perhaps a third of the cases in which it is made. Obviously, if the general physician referred everything "soon enough", he would have no medical work of any kind to do except to tell patients which specialist to see. Many diseases are difficult to diagnose in their earlier stages by anyone, general practitioner and specialist alike. Any physician is certainly justified in a brief period of observation and study in an unknown disease which does not appear to be threatening the patient.

Carelessness in adequate referrals by the general practitioner does occur and it should not be condoned.

Another facet of the problem that seems never to occur to the majority of men who discuss this subject is that a referral requires two people. The patient is concerned as well as the doctor. The average patient will not consent to an expensive referral or consultation unless he is thoroughly convinced that his illness warrants it. In the earlier stages of many illnesses, the patient is not so convinced. To insist would merely mean the loss of the patient—probably to an irregular practitioner. This part of the problem is frequently shrugged off—but only by men who have not had opportunity to experience it.

Once again, more time is the crux of the matter. When a physician has time to do a detailed examination and to work up each case thoroughly, his referrals will be more accurate.

When one refers a patient, he usually refers him for one specific job. It is a little disturbing to find that patient returning five hundred dollars poorer and with his medical needs all planned for the next three years—plans in which the general practitioner has no place except to get blamed by the patient for the expensive and extensive work-up. This is probably just bitterness and the author apologizes for it.

IV. THE GENERAL PRACTITIONER TRIES WORK TOO COMPLICATED FOR HIM

This is undeniably true in far too many instances; however, I would defend the general practitioner on the basis that nobody has tried to teach him what his capabilities and his limitations are.

All the way through medical school, the abilities of the general man are played down. The student, in many cases, graduates with the thorough-going understanding that he cannot do anything without at least three years of residency. Then he enters practice and finds out much to his amazement that his results are quite good. Having no basis for comparison, he lets all bars down, tries anything he can get by with.

Medical teaching to the contrary, the results are not disastrous. As a matter of fact, his individual pieces of work usually turn out quite well. It may be some years before he learns to his sorrow that the over-all morbidity and mortality rate is not so satisfactory as he had thought.

Undergraduate and graduate training in general practice will do much to correct this. "Snarling" at the general practitioner will do nothing, for he only feels that the conflict is on a monetary basis. As in all disputes, sympathetic understanding is the basis for settlement.

It is a sincere wish of this writer that a better understanding and liason between the country practitioner and his urban colleague arise in the future. Much progress can be made in giving better medical care when such understanding becomes a fact.

PAUL WILLIAMSON, M.D.,
*Director of the General Practice Program,
University of Tennessee.*

See editorial comment by Dr. John O. Boyd, President of the Virginia Academy of General Practice.

Floral Eponym

MICONIA

FRANCISCO M. MICON, b. 1528

The Spanish physician after whom Miconia is named was born at Vich, on May 28, 1528, and studied at Salamanca. The date of his death is unknown. He wrote a treatise on the value of cold water in therapy.

Miconia is a genus of hundreds of tropical trees and shrubs of America.

NEUROSURGICAL METHODS FOR THE RELIEF OF
SEVERE INTRACTABLE PAIN†

C. C. COLEMAN, M.D.,*

J. M. MEREDITH, M.D.,*

C. E. TROLAND, M.D.,*

Richmond, Virginia.

INTRODUCTION: In recent years because of advances in our knowledge of neuroanatomy and neurophysiology, together with improvements in surgical technique and in anesthesia particularly, neurological surgeons have been able to utilize a greater variety of techniques for pain relief in severe intractable cases, such as in those due to locally invasive or widely metastasizing carcinoma, in which a cure of the primary disease is no longer possible, pain in the extremities not due to malignancy, such as intermittent claudication, and other forms of ischemic vascular disease, causalgia, phantom limb pain etc. With the aid of the improvements and advances in our knowledge just cited, surgeons have become bolder and bolder in their attack on the intractable pain problems frequently present in practically all services of general hospitals, at one time or another, ascending, for instance, in nerve root and spinothalamic tract sections up the cord from the thoracic to the cervical region, to the medulla, to the mesencephalon and even to the sensory cerebral cortex itself. Sympathectomy of one type and location or another is much more widely utilized for relief of intractable pain as well as for other non-painful lesions than it was even a short decade ago. Anterior frontal lobotomy (either unilateral or bilateral) has been added to the surgical armamentarium for its pain relieving abilities, although the procedure was first universally utilized about fifteen years ago primarily as a surgical method for the relief of *certain psychoses*. Angina pectoris can now be relieved by bilateral upper posterior thoracic rhizotomy or by alcohol injection of upper thoracic sympathetic ganglia, or by sympathetic ganglionectomy itself. Herpes zoster remains as one of the most, if not the chief, painful lesion, relief of which, to a reasonable degree, has yet to be achieved surgically, or otherwise, although progress is reported

even for this very intractable pain syndrome (see below).

In the last ten to twelve years, literally scores of papers have appeared from neurological and neurosurgical clinics both in this country and abroad having to do with this very important problem: i.e. satisfactory and adequate relief of severe, intractable pain by neurosurgical procedures. The present paper is directed toward summarizing the knowledge gained by a perusal of a large number of these papers, to which have been added additional notes concerning our own *personal clinical experience* with the various neurosurgical procedures employed, and their relative effectiveness in our hands.

Even to-day, it must be said, as emphasized by Troland¹ in 1949, that "all too few sufferers from intractable pain are afforded relief by the best available means." It appears certain at the present time that one of the reasons for this state of affairs is the general lack of awareness of a large section of the medical profession as to the availability, efficacy and low operative mortality of the pain-relieving measures employed to-day. Another reason is the *laissez-faire* attitude all too frequently encountered in the presence of inoperable cancer. If the patient has only a few short weeks of life expectancy left, major spinal and intracranial pain-relieving procedures scarcely appear justified and, in fact, some of our leading neurosurgical clinics to-day refuse to carry out cordotomy in *drug-addicted* patients, as the post-operative relief, if any, in such patients is so complicated by "withdrawal" symptoms from disuse of opiates post-operatively, that frequently the patient, his relatives, the family doctor and the surgeon are far from satisfied with the over-all ultimate result.

In any consideration of surgical measures for relief of severe intractable pain, some *limitation* in *subject material* covered is imperative because of time and space limitations alone, and also because some of the painful non-malignant entities, such as her-

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niated lumbar or cervical discs, tic douloureux of the 5th and 9th cranial nerves, the scalene and cervical rib syndrome, et cetera, have long been well described by many writers and their relief by operation is now standardized in all neurosurgical clinics. Such lesions will not be considered in this paper.

The emphasis in this discussion will be on relief of pain wherever it may be in the body due to *inoperable cancer* and other *malignant* lesions, but mention also will be made of operations for relief of intractable *non-malignant* pain associated with peripheral blood vessel diseases, pain due to angina pectoris, painful scars, herpes zoster, amputation stump pain, phantom limb, causalgia and other miscellaneous conditions. The procedures utilized include operations on the central and peripheral nervous system, and also on the sympathetic nervous system.

(1) *Injections of novocaine and/or alcohol.*

TABLE I.
METHODS OF PAIN RELIEF

- (1) *Injections of novocaine and alcohol.*
 - (a) Local (scar, etc.)
 - (b) Paravertebral (sympathetic)
 - (c) Caudal (extradural block)
 - (d) Intrathecal (for CA)

Quite occasionally, we are confronted by patients who have painful scars—post-operative or post-traumatic. If one or two novocaine injections completely relieves the pain for an hour or two and it then returns, one may feel sure that excision of the scar probably will do so permanently.

Paravertebral (sympathetic) blocks are used for a variety of conditions. White and Smithwick² have injected many patients with angina pectoris (placing novocaine and alcohol in the region of the upper thoracic ganglia, paravertebrally). Other surgeons prefer direct operative attack by dividing the posterior thoracic spinal roots intradurally (laminectomy) or by removing the upper thoracic sympathetic ganglia as the method of choice for the surgical treatment of angina pectoris in patients who are otherwise in reasonably good physical condition.³

Stellate ganglion block, with novocaine, is now utilized (in addition to its widespread use in cerebral thrombosis to-day) for the "painful shoulder syndrome" often associated with an inflamed subacromial or subdeltoid bursa. We still occasionally resort to lumbar sympathetic ganglion block in painful phlebitis (post-operative or post-partum), not only to accelerate recovery from the phlebitis, but

also for its *pain-relieving* ability associated with increased warmth and dryness of the extremity, which follows almost immediately after such a procedure. In cases of phantom limb, or causalgia in an extremity from an incomplete nerve injury, or in amputation stump pain, two or three or more novocaine sympathetic blocks of the affected extremity achieve a two-fold purpose: (a) Temporary and, occasionally, indefinite relief of the pain; (b) Serves as a criterion as to the permanent efficacy of *sympathetic ganglionectomy*, i.e., definitely indicated if the novocaine blocks have achieved *temporary* relief.

Caudal (extradural) novocaine block, in which 70-80 cc. of 1/2% novocaine in normal saline solution are introduced through the caudal notch of the lower spine, may afford relief in those patients with more or less nondescript pain in the lower back and legs, in whom pantopaque study of the subarachnoid space has shown no protruded disc, tumor or other surgical lesion. In this procedure, the solution is placed extradurally and bathes the nerve roots in the sublaminal spaces en route to their points of emergence from the spinal canal.

Subarachnoid alcohol injection, usually at the level of the 3rd lumbar interspace, is a very helpful procedure in severely debilitated patients with a short life expectancy who probably would not tolerate bilateral upper thoracic cordotomy (as in terminal cancer cases).⁴ This technique is carried out via an ordinary spinal puncture; 0.5 to 0.8 cc. of absolute alcohol is introduced into the lumbar subarachnoid space and may be repeated on the other side if necessary in two or three days. Patchy hyposthesia of the involved leg results without motor weakness or permanent bladder paralysis. It is a valuable, albeit simple, maneuver to employ when major surgical procedures would be contra-indicated due to the debilitated condition of the patient.

(2) *Operations on pain tracts in the spinal cord, brain stem and cerebral cortex; rhizotomies.*

TABLE II.
METHODS OF PAIN RELIEF

- (2) *Operations on cord, brain stem and cerebral cortex; rhizotomies.*
 - (a) Spinothalamic cordotomy (upper thoracic).
 - (b) Medullary and mesencephalic tractotomy (or high cervical cordotomy).
 - (c) Rhizotomy, including 5th and 9th cranial nerves.
 - (d) Resection of sensory cerebral cortex.

(a) *Upper dorsal spinothalamic cordotomy* for relief of intractable pain in the pelvis, hips and lower extremities is by far the oldest of the neurosurgical procedures carried out on the pain tracts of the cord or brain stem. In 1912, Martin, at the suggestion of Spiller, first divided the lateral spinothalamic tract in the thoracic spinal cord for the relief of pain.⁵ Eight years later, Frazier,^{5a} of the same clinic, reported a series of cases which placed the operation on a sound basis. It affords relief of pain in the side opposite to that of the cord section, usually made at the level of T2-3 vertebrae. If done bilaterally, it is best performed in two stages, as protracted bladder involvement (urinary retention) is less likely to be present if so carried out. For severe pain up to the level of the umbilicus, the operation is almost ideal. It is, however, important to emphasize to the family and, at times even to the patient, that the operation in no way arrests the course of the malignant disease for which the procedure is usually done and that permanent paraplegia, bladder dysfunction, et cetera, may follow fairly soon after the operation, not due to the surgery performed but to the inevitable spread of the disease intraspinally. As previously emphasized, major operation—and this is true of all pain-relieving procedures—should be carried out *before* fixed addiction to opiates is present—a state which precludes the advisability of operation in some of the leading clinics in this country, at the present time. As emphasized recently by Freeman and Heimbürger,⁶ bilateral cordotomy performed high, just below the arm area, is also helpful in relieving the somatic and sympathetic pain in the lower trunk and lower extremities of patients following severe injury to the spinal cord even to the point of paraplegia. Care must be exercised in excluding the cases of “psychic pain” following cord injury in selecting this type of patient for operation. Browder and Gallagher⁷ feel that in carefully selected cases of phantom limb pain (especially in the feet) particularly in those in whom the pain seems due to *cramped, abnormal posture of the ghost extremity, dorsal column cordotomy* is the pain-relieving operation of choice; however, it will have little beneficial effect on causalgic pain per se. Cordotomy also is utilized occasionally in very severe *lumbar spondylitis* with hip and leg pain not relieved by orthopedic measures.

(b) *Medullary tractotomy; high cervical cordo-*

my; mesencephalic tractotomy.

When the pain is higher than the umbilical area, upper thoracic cordotomy will not suffice for relief of the pain. When the discomfort is present in the arm and shoulder and upper chest, as in apical lung carcinoma (Pancoast tumor), medullary tractotomy⁸ or high cervical cordotomy⁹ is required. In a symposium on pain relief at one of the national neurological surgery meetings in September 1951, high cervical cordotomy seemed to be the method of choice for relief of pain in these upper levels as the operative risk is considerably less with it than following medullary tractotomy. The pain fiber tract (spinothalamic) is quite anterior in the medulla and hence that operation is difficult and, in fact, somewhat “blind” from a technical standpoint. Crawford⁸ has been the chief advocate of medullary tractotomy, eleven operated cases being reported by this writer, with three deaths (27%). Schwartz and O’Leary¹⁰ also advocated this procedure. High cervical cordotomy—the procedure now favored in most clinics for relief of pain in the arm, shoulder and upper chest—was strongly advocated by Stookey¹¹ and by Peet, Kahn and Allen.¹² High cervical cordotomy also avoids bladder and rectal incontinence post-operatively as the sympathetic-parasympathetic fibers at that high level in the cord are somewhat removed from the pain fibers of the spinothalamic tract. Combined with the cervical cordotomy, posterior rhizotomy of C2, 3, 4 roots on the side of the pain is useful and usually employed by us.

Dogliotti¹³ proposed spinothalamic tractotomy in the pons. He carried out the operation in four patients, with one death and three successful results. Walker¹⁴ described section of the spinothalamic tract in the mesencephalon in five patients, with two deaths and success in the other three cases. Sweet¹⁵ has reported one case in which this method (mesencephalic tractotomy) was employed with relief of pain.

Because of the obvious dangers of these latter two procedures, particularly if bilateral tractotomy is indicated, and also because of the very disagreeable paresthesias which some patients have experienced, we do not advocate these two last-described operations at the present time. We now believe that high cervical cordotomy is the procedure of choice for relief of pain in the arm, shoulder and upper chest, especially when due to inoperable malignant disease.

It should be said that extensive posterior cervico-

thoracic rhizotomy will, of course, also relieve pain in the arm and shoulder but all modalities of sensation are thereby lost in the extremity and the arm is, to all intents and purposes (even though motor power is not impaired by the operation), useless. Ray¹⁶ reported 24 rhizotomies on apical chest tumor cases with good results. Grant¹⁷ reported 15 cases of posterior root section (C3 through T2) for brachial plexus pain due to various lesions with relief in only 8 cases and there were 2 operative deaths.

(c) As one ascends higher in the body, one encounters severe intractable pain cases usually due to malignancy involving the face, mouth, throat and/or neck. Rhizotomies of the 5th and 9th cranial nerves intracranially and section of the upper three homolateral posterior cervical roots constitutes the procedure of choice in these cases. The 9th nerve is sectioned in the posterior fossa near the jugular foramen, the 5th at the tentorium or in the upper cervical cord (descending root). For carcinoma of the tongue, antrum, throat, oral cavity and adjacent areas, all of these nerves are severed at one session, the operating time usually averaging 4-4½ hours. We also divide two of the cephalic rootlets of the vagus nerve, particularly if throat and ear pain is a prominent part of the patient's complaint. This combination of procedures has been carried out many times in our own and other clinics and is, as a rule, eminently satisfactory for pain relief in these pathetic individuals. The average case, if not too debilitated and wasted from lack of nourishment, is up in a chair on the 5th or 6th post-operative day. If pain from carcinoma of the face, tongue, paranasal sinuses or mouth is confined to the domain of the 5th (trigeminal) nerve, alcohol injection of the 2nd and/or 3rd divisions, or even the standard 5th nerve posterior root avulsion (as for tic douloureux) in the middle fossa may be utilized to afford relief and allow freedom from pain in eating during the intense reaction that sometimes accompanies X-ray treatment or radium therapy, as emphasized by Hare, Poppen and Hoover.¹⁸ However, such carcinomas notoriously spread to the areas supplied by the 9th cranial nerve and upper posterior cervical roots so readily that before debilitation becomes too extreme, it may be better to carry out the multiple rhizotomy operation just described in one operative session at an early date; at least, many surgeons who are called upon to perform these extensive operations so believe, in-

asmuch as only *one chance* for major surgery is usually feasible in the individual case of this type.

Painful spasmodic paraplegia in flexion, incident to previous cord or cauda equina injury, is relieved by section of anterior lumbar roots, bilaterally, after a year or more has elapsed, to be certain no possible motor power is to be regained spontaneously in the paralyzed legs. This operation was utilized many times in the late war in military paraplegic treatment centers with great satisfaction in relieving the very painful and sometimes violent involuntary flexor spasms of the legs (Botterell et al).¹⁹ Once carried out, however, the patient is, of course, a permanent paraplegic of the flaccid type. According to Cooper and Hoen²⁰ and also suggested by Campbell and Whitfield,²¹ the same result can be obtained by injecting into the lumbar subarachnoid space 8 or more cc. of absolute alcohol by means of lumbar puncture, at least two injections being required to produce relief of the flexor spasms. Such a procedure is particularly valuable in severely debilitated patients who probably would not tolerate major surgery.

(d) *Resection of the sensory cerebral cortex.* This operation, at the cerebral cortical level, has been performed by Horrax²² and by Mahoney²³ for the relief of phantom limb pain with results which were not entirely satisfactory. Post-operative motor weakness and epileptic seizures are definite hazards. It is, in fact, now certain that cortical sensation is represented over a much wider area—even extending to the adjacent motor cortex—than in the post-central cortex only, as was considered the case until recently. We, therefore, feel that this operation is not now advisable for contralateral arm and/or leg pain.

(3) *Sympathetic and peripheral sensory nerve resections; anterior frontal lobotomy.*

TABLE III.

METHODS OF PAIN RELIEF.

- (3) *Sympathetic and peripheral sensory nerve resections; also anterior frontal lobotomy.*
 - (a) Thoracolumbar sympathectomy (visceral pain, including angina pectoris)
 - (b) Sympathetic denervation of arm and leg
 - (c) Causalgia; herpes zoster
 - (d) Intercostal neurectomy and neurectomies in feet
 - (e) Anterior frontal lobotomy: (particularly for malignancy and drug addiction)
- (a) The relief of *visceral pain* has recently stim-

ulated considerable interest among neurosurgeons. With respect to angina pectoris, two operations have met with favor: (1) Klemme²⁴ advocates the surgical removal of the 2nd, 3rd, 4th and 5th thoracic sympathetic ganglia on the painful side only. The 1st thoracic segment does not carry cardiac afferent or efferent fibers. He reported a successful case in 1947. (2) On the other hand, White³ stated that statistics from other neurosurgical clinics in this country show that laminectomy and *bilateral* intradural section of the upper four thoracic posterior roots will give equally effective results and insure that there will be relief of pain *bilaterally* in the chest. Surgical interruption of the sensory fibers to the heart is highly effective for pain relief in angina pectoris although it carries an operative mortality of at least 10%.

Pain in the abdominal viscera, such as the pancreas or liver, often but not necessarily of malignant origin, may be eliminated by unilateral or bilateral splanchnicectomy. DeTakats²⁵ (with Walter) has reported relief of intractable pain due to calcareous pancreatitis by splanchnic nerve section; the same is true of carcinoma of the pancreas, *preferably verified by previous laparotomy*. However, even in patients having abdominal visceral pain only from *inoperable carcinoma*, cordotomy (cervical or thoracic, depending on the locale of the pain) would probably be preferable to splanchnicectomy, in our opinion, as there may occur later neoplastic extension outside the visceral distribution of the splanchnic nerves, making pain recurrence a strong possibility, unless cordotomy had been performed. In those cases of visceral abdominal pain due to *non-malignant* lesions, such as calcareous pancreatitis, post-operative adhesions, et cetera, splanchnicectomy alone should prove effective in relieving the patient of his pain. Trimble and Morrison²⁶ have recently utilized alcohol injections of lumbar and thoracic sympathetic ganglia in 11 cases of chest, abdominal or pelvic pain with marked relief.

Joe Meigs²⁷ advocates pre-sacral neurectomy for dysmenorrhea and in properly selected cases it undoubtedly is of great benefit. He reported 111 cases in 1948; complete relief was obtained in 81% of essential and in 53% of acquired dysmenorrhea. After presacral neurectomy, pregnancies can occur and painless labor often is possible in subsequent

pregnancies. This procedure is performed by the gynecologists.

(b) Ischemic neuralgia of the extremities, or peripheral vascular inadequacy, in universally recognized as being relieved by appropriate ganglionectomy of the thoracic or lumbar sympathetic chain. The *greater the degree of vasospasm*, as contrasted with organic occlusion of the vessels in the involved extremity, the more likely is postoperative relief of pain to be obtained. Many of these cases associated with spasm of peripheral vessels continue to be operated on successfully; examples are Raynaud's disease, Buerger's disease, intermittent claudication, phantom limb and amputation stump neuralgia, and certain cases of causalgia.² With respect to the true cause of phantom limb pain, this is still unsettled. Li and Elvidge²⁸ recently reported a case of a man who had an immediate complete paraplegia and loss of all sensation and reflexes in his legs (physiologic transection of the cord) incident to a fracture and cord injury at D7 and D8 vertebral level. However, not until the left leg was amputated a few days later for local fracture and trauma of that extremity was phantom limb pain first *noted*; it began four days after the amputation. Sympathetic blocks, spinal anesthesia with novocaine, replacement of subarachnoid fluid with nupercaine below the locale of the spinal injury, spinal exploration (laminectomy) at the site of the fracture all were tried with indifferent results so far as even temporary relief of the phantom limb pain was concerned. Such a case strongly suggests the probable importance of *psychic trauma* in certain cases, at least, of phantom limb pain.

(c) *Causalgia; herpes zoster*. Undoubtedly, the greatest number of papers in recent years on the subject of chronic intractable pain have been concerned with causalgia. Mayfield and Ulmer, Gordon, Shumacker, Maltby, Echlin, Murphey, White and Devine²⁹ have all written or been co-authors of papers on this subject during and since the war, in addition to many others. The synopsis of these papers appears to be that once one is sure that causalgia is present in an extremity, from incomplete nerve injury, crushing of the limb, immersion foot, frost bite, et cetera, *early* sympathectomy is certainly the method of choice, especially if one or more preliminary novocaine blocks have afforded temporary relief. Ulmer and Mayfield, in 1946, reported on 105 cases of causalgia due to incomplete nerve lesions and

recommended early sympathectomy as soon as the diagnosis is established to prevent the psychic trauma of prolonged pain and crippling joint stiffness.

Herpes zoster remains without question the pain syndrome most difficult to control or relieve (with the possible exception of atypical facial pain). Undoubtedly this is due to the fact that the virus affects the pain tracts *in the cord* and perhaps in the *brain stem* as well, so that *peripheral* neurectomies and injections of *peripheral* nerves are usually ineffective. Curiously enough, the recent proposal by Browder³⁰ that excision of the skin involved in herpes of the *trunk* (provided only one or two adjoining dermatomes are affected) may be more helpful than any nervous system operation has certainly proved useful in his hands. Findley and Patzer³¹ report that paravertebral procaine block of the appropriate sympathetic ganglia may be effective in the relief of the notoriously painful reaction typically associated with herpes zoster (this method was reported originally in 1938 by Rosenak of Budapest³²). They report a total of 29 cases—four of their own and other reports in the literature—in only 2 of which was there failure to experience prompt and lasting relief from pain. Their own 4 cases—all in the *early acute phase*—had excellent results and the method certainly deserves more extensive trial in *acute* herpes zoster; its value in the chronic type of case is questionable. Abbott and Martin³³ have advocated an ingenious method of subdermal denervation of the involved skin down to the muscles, with good results in two of three cases of herpes zoster. Anterior frontal lobotomy may be useful also, particularly in the severe *chronic* variety of this disease.

(d) Intercostal neurectomies are utilized by us occasionally for painful scars (provided preliminary novocaine injection has afforded temporary relief) with marked relief in selected cases, and neurectomies or crushing of the five sensory nerves in the ankle and feet (saphenous, superficial peroneal, sural, deep peroneal and posterior tibial) are performed for relief of "rest" pain often present in certain cases of Buerger's disease and peripheral arteriosclerosis. First intention healing of such small incisions takes place as a rule with absence of any peripheral pulsations in Buerger's disease, but in arteriosclerosis this cannot always be counted on when the popliteal artery is occluded, according to White and Smithwick.²

(e) *Anterior frontal lobotomy*. Finally neurological surgeons have utilized the operation (either unilateral [Scarff³⁴] or bilateral [Poppen³⁵ and Grantham³⁶]) of anterior frontal lobotomy in certain intractable pain cases due to widespread malignancy. It favorably alters the patient's reaction to pain without materially changing his ability to feel pain. It is not the ideal operation for chronic intractable pain relief as encountered in patients with widespread malignancy but when associated with *fixed drug addiction* it is often to be preferred to actual nerve or spinothalamic tract section. A unilateral procedure is less effective in most hands; Grantham's bilateral operation, in which the lower medial quadrant of each frontal lobe *only* is divided, has been successful in relieving severe pain and, at the same time, not causing the unwanted changes in personality and intellect (particularly undesirable in the *non-malignant* pain cases) occasionally seen in the standard bilateral anterior frontal lobotomy (Lyerly,³⁷ Freeman and Watts,³⁸ Poppen³⁹) performed for the relief of certain psychoses.

SUMMARY AND CONCLUSIONS: From the foregoing discussion, it is apparent that the best results in surgery for relief of pain are to be obtained in combining the properly selected procedure with the optimum time for carrying it out. Individual surgeons' opinions and judgment may differ (as their experience increases) with respect to the best operation for any particular patient, i.e. although one operator might select spino-thalamic cordotomy for a carcinoma-riddled patient, another surgeon would perhaps choose bilateral anterior frontal lobotomy for the same patient. Certainly, careful selection of the operation most likely to afford relief for the particular case is important. In general, relief of pain in cancer cases is most likely to be obtained when the area invaded by the malignancy is deprived of its afferent (sensory) nerve supply. If the patient is also addicted to opiates, bilateral anterior frontal lobotomy may be preferable to spino-thalamic tractotomy or one or more of the rhizotomies. Sympathectomy is particularly helpful—not in the patients with carcinoma as a rule, but in the non-malignant painful lesions, such as peripheral vascular disease, causalgia and phantom limb pain, especially (in the two latter conditions) if done *soon after the occurrence* of the trauma which caused the pain.

The main purpose of this paper is to direct the

attention of the profession to the various low-risk, modern surgical methods of pain relief now available—a number of them having been developed only in the last decade—for (1) relief of patients with *inoperable painful malignancies* who have still some months or a year or more of life, in all likelihood, and also to emphasize (2) the surgical methods available for such *non-malignant* chronic painful conditions as peripheral vascular disease, angina pectoris, causalgic states, phantom limb pain and amputation stump neuralgia. The surgical risks and penalties, as well as the pain relieving ability of each operation, must be understood before any one operative procedure is selected for any given patient. Great judgment and experience are required to produce the best results in the individual case.

Certainly, it is believed by us, and we hope by all physicians, that with the recent advances in neuroanatomic and neurophysiologic knowledge, together with improvement both in surgical technique and in anesthesia, many more appropriate patients will become candidates for surgical relief of pain with a steadily diminishing post-operative mortality rate and also with a reduction in disagreeable post-operative sequelae.

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AMA Books Off the Press.

The AMA's Council on Pharmacy and Chemistry announces that new editions of two of its major publications—"New and Nonofficial Remedies" and "Useful Drugs"—will be available this summer. The 1952 edition of "New and Nonofficial Remedies" retails for three dollars postpaid and "Useful Drugs" (15th edition) for \$2.50 postpaid. Both may be secured through the publishers, J. B. Lippincott Co., Philadelphia, bookstores, or single copies through the AMA's Order Department.

Civil Defense Booklet.

For the first time, a series of articles covering various medical problems involved in civil defense have been compiled in one booklet—"Medical Aspects of Civil Defense"—by the AMA's Council on National Emergency Medical Service. Included are items on civil defense organization, medical aspects of biologic warfare, chemical defense, atomic burn injury, nature of air raid casualties, mental health and atom bomb injury. Copies are being distributed to all chairmen of state emergency medical service committees. Additional booklets at 25 cents per copy are available on request through the Council.

HISTOPLASMOSIS OCCURRENCE IN VIRGINIA†

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Histoplasmosis is a disease caused by *Histoplasma capsulatum* and in the severe disseminated form is characterized by emaciation, irregular fever, hepatosplenomegaly, leukopenia and anemia.

History. In 1906, Darling¹ reported: "On December 7, 1905, while examining smears from lungs, spleen and bone marrow in a case that appeared to be miliary tuberculosis of the lungs, I found enormous numbers of small bodies generally oval or round. Most of them were intracellular in alveolar epithelial cells, while others appeared to be free in the plasma of the spleen and rib marrow. Tubercle bacilli were absent." He suggested that this newly discovered fungus be called *Histoplasma capsulatum* and that the disease it produced be called Histoplasmosis. In 1908, Darling² reported two more cases of this disease in Panamanian laborers.

The first case of Histoplasmosis in this country was reported by Riley and Watson^{3,4} in Minnesota in 1926. The fourth case was reported in 1939⁵ and by 1949 ninety-six cases had been reported^{6,7}.

Until recently it was believed that Histoplasmosis was a severe systemic disease almost invariably fatal. In 1945, Palmer⁸ skin tested with histoplasmin 294 nurses who had pulmonary calcifications with a negative tuberculin test and found that 91.5% had positive reactions. Other investigators have reported similar results.

Incidence. Of the 96 cases reported by 1949, 28% occurred in children under the age of 13 years. The youngest age reported was 3 months while the oldest was 70 years⁷.

Endemic areas include Indiana, Ohio, Missouri, Kentucky, Tennessee and Arkansas. Scattered cases have been reported from Florida, North Carolina, Virginia, Minnesota, Michigan, Iowa and California⁹.

Of the seven cases of fatal Histoplasmosis that we

have reviewed in Virginia, including the case reported in this paper, four were from Loudoun county¹⁰, one from Richmond City¹¹, one from Rappahannock County¹² and one from Spotsylvania County. Six of the seven patients were children under 13 years of age. All seven cases were proved by autopsy and by the demonstration of the parasite.

Mycology. "When cultured on Sabouraud's medium, the organism appears as a white, cottony mold. When examined under the microscope branched, hyaline, septate mycelium, 2.7 u. to 5 u. in diameter, containing dark granules are seen. When cultured on blood agar incubated at 37°C. the fungus grows in yeastlike form."

Source of Infection. *Histoplasma capsulatum* has been found in dogs, rats, mice and horses, and in 1947, Bell and Emmons¹³, working in Loudoun County, were able to isolate the fungus from the soil upon two occasions. Therefore, it seems reasonable to suspect that the source of infection in man is from these reservoirs.

Pathology and Pathogenesis. *Histoplasma capsulatum* is a parasite of the reticuloendothelial system. The small (2-5 u.) yeastlike bodies are found in large monocytes or polymorphonuclear cells of the blood and bone marrow and in the reticuloendothelial cells of various tissues including the liver and spleen. Autopsy findings usually include hepatosplenomegaly, enlargement of lymph nodes and the presence of tubercle-like granulomas in the lungs, liver, spleen and kidneys¹⁰. The granulomas may undergo central necroses which is often followed by deposition of calcium.

Symptomatology. Severe disseminated Histoplasmosis is characterized by irregular fever, emaciation, anemia, leukopenia, splenomegaly, hepatomegaly, enlargement of the lymph nodes, ulcerations of the mouth, oropharynx, and gastrointestinal tract. In discussing x-ray findings, Holt¹⁴ states: "The usual picture shows enlargement of hilar lymph nodes, peribronchial thickening and multiple miliary calcifications. The miliary spread is usually a ter-

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minal manifestation and is of little help in diagnosing the early stages of the disease." Differential diagnosis must include tuberculosis, kala azar, leukemia, bacillary dysentery and Hodgkin's disease. In the intermediate form the dissemination is arrested and the patient is only moderately ill¹⁵. Benign Histoplasmosis is asymptomatic and is usually discovered accidentally by routine x-ray examination and histoplasmin skin testing.

Skin Testing. At the Medical College of Virginia Hospital 0.1 milliliter of a 1-1000 dilution of histoplasmin is injected intradermally and readings are made at end of twenty-four, forty-eight, and seventy-two hours. An area of erythema and induration 0.5 cm. or greater in diameter is regarded as a positive reaction.

Treatment. Many drugs, including sulfonamides, antimony compounds, aureomycin, chloramphenicol and streptomycin have been used without benefit. However, in 1951, Christie, Peterson *et al.*¹⁵ reported twelve cases of severe disseminated Histoplasmosis treated with ethyl vanillate. Five of the patients showed marked improvement and were still living at the time of the publishing of their paper, and the seven others died.

CASE REPORT

Case No. 109532B, J.B., 5 yrs., W., M., was admitted to the Medical College of Virginia Hospital on May 2, 1951.

J. B.* was first seen in the Mary Washington Hospital in November, 1949. At that time he had two subcutaneous abscesses of the left flank. He gave a history of having had treatment for worms approximately three weeks prior to the onset of these abscesses. The abscesses were drained and an attempt at chest tap revealed no fluid, although the chest x-ray was suggestive of some fluid in the left pleural space. Cultures from subcutaneous abscesses revealed staphylococcus albus, no acid fast bacilli. He was again treated for worms at this time. Under treatment with the antibiotics of penicillin and streptomycin he improved considerably and was sent home to be followed by his doctor.

His next admission was May 24, 1950. At this admission he had developed a large abscess on the left side of his neck. He had previously developed cough and fever for one month prior to admission.

*We are indebted to Dr. Lloyd Moss, Mary Washington Hospital, Fredericksburg, Virginia, for referral of case with history.

This cough had been productive of yellow pus. This abscess was drained and a culture and smear revealed staphylococcus albus. His sputum culture revealed hemolytic staphylococcus aureus. There were no acid fast bacilli seen. His stool examinations revealed evidence of ascaris lumbricoides and he was treated for this. X-ray examination revealed a large amount of fluid in the left pleural space and there was also a shadow in the right upper lobe. An attempted aspiration of the pleural space over the left chest failed to reveal any fluid. Tuberculin patch test was negative. He was given large amounts of penicillin and streptomycin as he gradually improved.

An x-ray on June 7, 1950, revealed that the process in the right upper lobe had diminished considerably in size and the left base had definitely improved. It was then discovered that the spleen and the liver were somewhat enlarged. He was sent home and did fairly well until approximately three months ago.

At this time, he began to have fever, cough, shortness of breath and some swelling of the abdomen and ankles. He was treated at home by his physician with sulfonamides, penicillin and chloramphenicol, but failed to respond.

He was again sent to the hospital three weeks ago. Examination showed a great deal of evidence of right sided heart failure. His liver was greatly enlarged, his abdomen was distended and there was three plus pitting edema as well as cyanosis and distended neck veins. There were moist rales heard throughout the chest. He was put in oxygen, digitalized and given Thiomerin. He responded gradually to this treatment and after about ten days was able to be out of oxygen and to sit up and eat by himself. Chest x-ray at this admission revealed both lungs to be mottled with patches of density. A sputum examination failed to reveal any acid fast bacilli and gastric washings also failed to reveal any acid fast bacilli. A tuberculin test 1-10,000 was negative. His stool examinations again revealed ascaris lumbricoides and he was given treatment on three separate occasions. He gradually responded to penicillin and chloramphenicol and streptomycin. At time of discharge from the hospital his liver had decreased considerably in size, the edema was all gone, the tip of his spleen was palpable and he was able to be about a little without cyanosis. He was discharged

on a maintenance dose of digitoxin of .25 mg. a high caloric diet, supplemental vitamins and an iron preparation.

He did fairly well at home for approximately five days then his edema and dyspnea began to return. He was admitted back to the hospital with pitting edema, distended neck veins and marked cyanosis. He was put in oxygen tent, given $\frac{1}{2}$ cc. of Thiomerin and he responded moderately well. The next day he was referred to Medical College of Virginia Hospital.

Physical examination on admission revealed: A thin 5 year old white male with a slight cyanotic tinge to lips and appearing ill. Temperature was 99.6° , pulse 100, respiration 38 and blood pressure 90/60. Head was essentially negative. Eyes: conjunctivae appeared normal. Pupils reacted to light and accommodation. Ears: both external canals and tympanic membranes appeared normal. Nose: essentially normal. Mouth: he had several carious teeth. Throat: negative. Neck: there were posterior shotty cervical nodes. No rigidity. Lungs showed moist inspiratory and expiratory rales heard over both lung fields anteriorly and posteriorly. There were well healed scars over the region of the left eighth and twelfth ribs posteriorly. Heart was enlarged to percussion. Rate was 100. Rhythm regular. No murmur noted. The abdomen distended. The skin was thin and the veins were rather prominent. The liver was palpable three finger breadths below the costal margin. The spleen was readily palpable. There was clubbing of fingers and toes. Extremities: reflexes were entirely normal.

Laboratory work: Hemoglobin 12 gm./100 ml., red blood cell count 4.76 million/cmm. White blood cell count, 11,700/cmm. with 69% neutrophils, 2% eosinophils and 25% lymphocytes. Sedimentation rate 14 mm/hr. Blood chemistry: sodium 138 m.eq./l., potassium 4 m.eq./l., sugar 109 mg./100 ml., chlorides 91 m.eq./l., CO_2 combining power 37.5 vol. %. Total protein 6.4 with albumin 3.8 and globulin 2.6 gm./100 ml. Congo red test within normal limits and cholesterol 177 mg./100 ml. Blood culture revealed no growth on two occasions.

Nose cultures revealed *B. subtilis* and *staphylococcus albus*.

Throat cultures revealed *E. Coli* and monilia.

Bone marrow culture was negative and bone mar-

row smears were negative for abnormal cells and parasites.

Stool exam. was negative for ova and parasites.

Blastomycin, Torula, and tuberculin skin tests were negative.

Histoplasmin skin tests was markedly positive, leaving an area of induration, erythema and pigmentation 2.5 cm. x 2 cm. in diameter. This test was repeated on the other arm with a similar reaction. The test was negative on three other patients used as controls.

X-rays of the skull were reported as normal.

X-ray of the chest revealed definite cardiac enlargement with enlargement of both sides of the



Fig. 1.—X-ray of chest showing definite cardiac enlargement with enlargement of both sides of the heart. There is prominence of both hilar shadows with nodes at the hilar area and mottling throughout both lung fields with a small amount of fluid at both cardio-phrenic angles.



Fig. 2.—Picture of right ventricle—Cor Pulmonale.

heart. There was prominence of both hilar shadows with possible nodes at the hilar area and mottling throughout both lung fields with a small amount of fluid at both cardio-phrenic angles (Fig. 1).

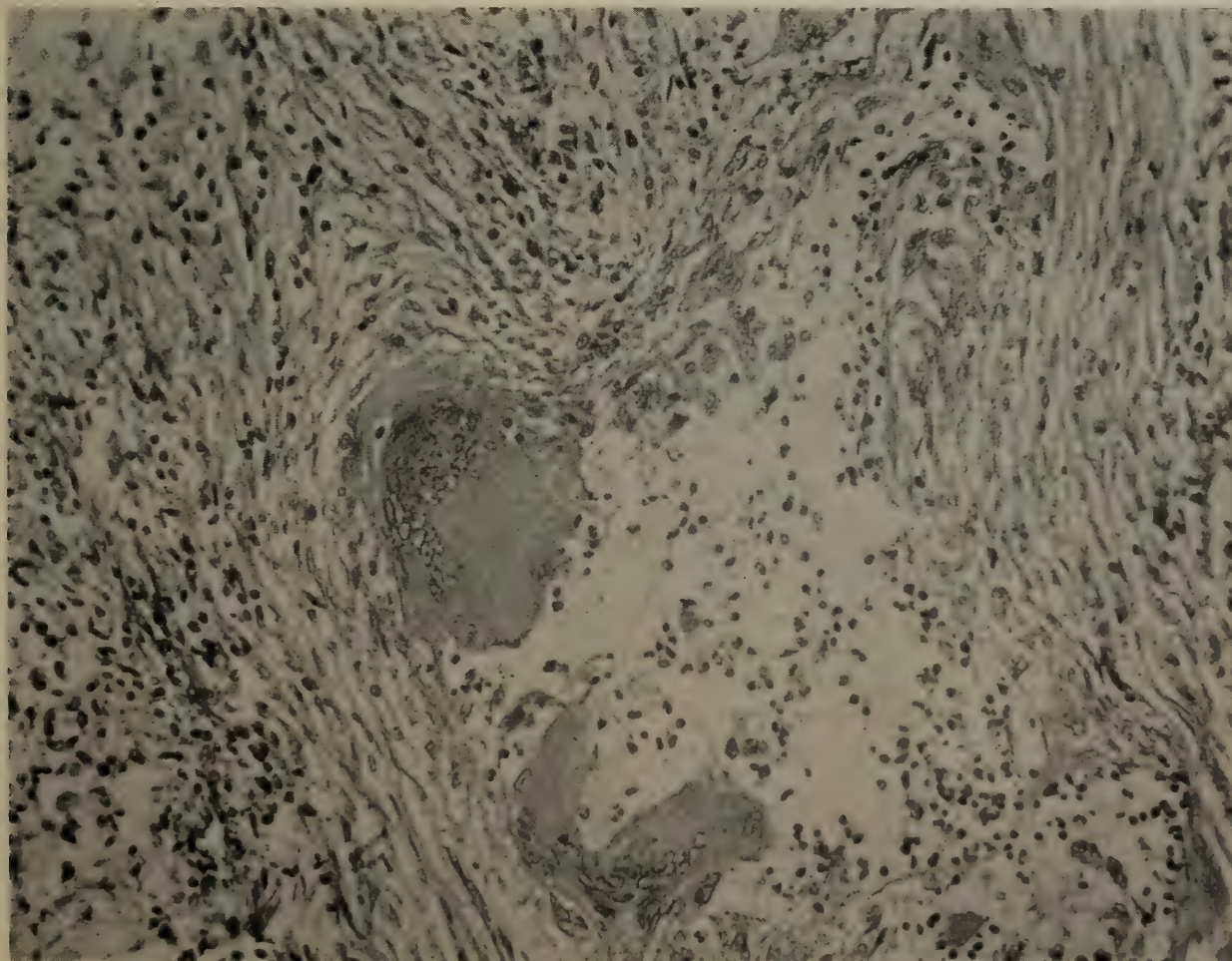


Fig. 3.—Granulomatous reaction in lung with foreign body giant cells.

The electrocardiogram was reported as showing right ventricular strain and a vertical heart with abnormal T and P waves over the precordium.

Clinical impression was: Chronic pulmonary disease, probably due to *Histoplasma capsulatum* with cor pulmonale and right-sided cardiac failure.

The patient was placed in oxygen on admission. He was not digitalized because of the normal heart rate, and the presence of much respiratory distress. He had an uneventful hospital course for the first few days and he was able to stay out of oxygen for short lengths of time. However, his course was gradually downhill until he expired on 5-15-51 while in the oxygen tent.

AUTOPSY FINDINGS

At autopsy the findings consisted of lungs which were the "seat" of diffuse involvement characterized by decreased crepitation and increased consistency throughout all lobes. Small tubercle-like structures and larger confluent ones were also present in all lobes. All of the regional lymph nodes were large

and edematous. The lungs weighed 905 grams (normal 200 grams). Material from the lungs was cultured for *Histoplasma capsulatum* and yielded negative results.

The heart was markedly enlarged and this was due to chronic cor pulmonale (Fig. 2).

Microscopically, the lungs were characterized by granulomata with giant cells and their centers contained polymorphonuclear leukocytes, showing the feature of minute abscesses (Fig. 3). In addition, there was considerable interstitial fibrosis and bronchiolitis obliterans. Similar granulomatous collections were seen in the periadrenal fat of one side. Acid fast and bacterial stains were not revealing. Periodic acid Schiff reagent method revealed organisms identifiable as *Histoplasma capsulatum* in several sections studied of the lungs (Fig. 4). No intra nuclear inclusions were seen in the bronchial epithelium or giant cells.

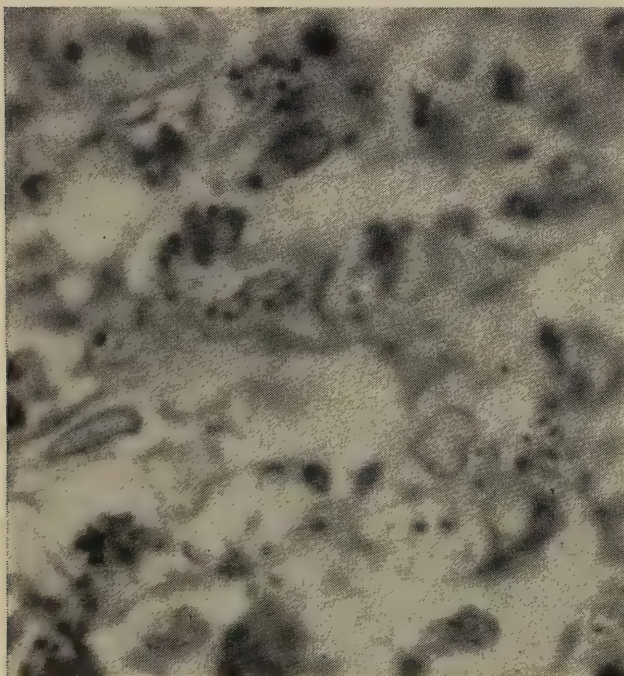


Fig. 4.—*Histoplasma capsulatum* (periodic acid Schiff reagent method.)

DISCUSSION

From the autopsy findings of the parasites in the lung tissue it is quite reasonable to assume that the *Histoplasma capsulatum* was the primary cause of the patient's death.

At the time of death the patient was not suffering from a disseminated case of histoplasmosis, as there were repeated negative examinations for the parasites

in both blood and marrow. Sputum smears were also negative.

The positive skin test, allergic in reaction, indicated that patient evidently had overcome a disseminated stage, if present at any time, and had developed some immunity.

However, the local reaction of the lung tissues to the infestation was of such severity that a marked amount of destruction and scar tissue had developed. This pathology in turn had interfered with the pulmonary circulation to such an extent that the patient was suffering from pulmonary osteo-arthritis as well as from the damming back of the blood into the pulmonary artery and right ventricle.

This increased pressure in the pulmonary circulation produced the dilation of the pulmonary artery and the thickening of the muscles and dilation of the right ventricle. When the right side of the heart could no longer withstand the strain, the heart went into failure and the patient died as the results.

COMMENT

Histoplasmosis can be of grave importance to the health of an individual, even causing death.

Luckily in Virginia, there is infestation occurring, as far as known, in only a few counties judging by reported cases. For case finding, the histoplasmin skin test should be more frequently resorted to to be used particularly in those cases where lung pathology is presented and tuberculosis is suspected but can not be proved due to failure to find the tubercle bacilli and the occurrence of a negative tuberculin test. Under such conditions with the use of the test, it is believed more cases of histoplasmosis will be found. Histoplasmin skin tests were done on other members of the patient's family but were reported negative.

SUMMARY

A discussion of histoplasmosis and its occurrence in Virginia is presented. A case of histoplasmosis with positive autopsy findings showing the parasites is reported.

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New Pamphlet on Cost of Sickness.

To create a better understanding of one of the major causes of patient-doctor misunderstanding—the cost of illness—a new pamphlet has been designed for public distribution. Entitled "Your Money's Worth in Health," the booklet stresses the various aspects of patients' medical bills and the cost of illness in relation to the national income. The pamphlet shows graphically that the cost of illness has not risen as much or as rapidly as other consumer goods. This illustrated eight-page pamphlet soon will be made available to AMA members and medical societies for distribution to the general public.

New Books.

The following is a list of some of the newer books received at the Tompkins-McCaw Library of the Medical College of Virginia, Richmond. These

may be borrowed by readers under usual library rules.

- Alexander—Dynamic psychiatry, 1952.
 Annual review of medicine, Vol. 3, 1952.
 Anson—Callender's surgical anatomy. 3rd ed. 1952.
 Bailey and Von Bonin—Isocortex of man, 1951.
 Beach—Principles of refraction, 1952.
 Behrman—The scalp in health and disease, 1952.
 Brown, et al.—Clinical ballistocardiography, 1952.
 Forbus—Reaction to injury, Vol. 2, 1952.
 Glasgow—Problems of sex, 1949.
 Jordan and Shepard—Prescription for medical writing, 1952.
 Kolmer, et al.—Approved laboratory technic. 5th ed. 1951.
 Lichtenstein—Bone tumors, 1952.
 Nickson—Symposium on radiobiology, 1952.
 Riviere—Rehabilitation of the handicapped. A bibliography. 1940-46. Vols. 1 and 2, 1949.
 Smillie—Preventive medicine and public health. 2nd ed. 1952.
 Vail—The influence of exercise on nitrogen metabolism following severe trauma in adult male patients. 1952.

LOBOTOMY IN MENTAL DISORDERS*

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When prefrontal lobotomy was first introduced into the United States in 1936, Watts and I were encouraged by Adolf Meyer¹. "I am not antagonistic to this work," he said, "but find it very interesting. I have some of those hesitations about it that are mentioned by other discussants, but I am inclined to think that there are more possibilities in this operation than appear on the surface. . . . The work should be in the hands of those who are willing and ready to heed the indications for such a responsible step and to follow scrupulously the experience with each case."

Watts and I continued our work together until the Spring of 1948, operating upon a total of more than six hundred cases². All of these patients have been followed for at least two years, and only one patient was not heard from in 1950-51. A second series, transorbital lobotomy, was started by me in 1946 and now exceeds 900 cases. The first five hundred were followed with the same scrupulous care, only two patients being lost to view. Meanwhile psychosurgery has been widely adopted throughout this country and abroad. Recent figures presented to the Third Research Conference on Psychosurgery³ give a total of some 17,500 operations performed in the United States. On the basis of this experience it is possible to present some ideas concerning the methods of psychosurgery and its use in the treatment of mental disorders.

Prefrontal lobotomy has proved effective in the management of severe cases of dementia praecox. A lobotomy program in a state mental hospital, carried out actively and conscientiously, can transform a lunatic asylum into an old people's home. There is a special type of patient to be found in large numbers in every state hospital; the patient who is driven to desperation by his inner experiences and who reacts to these by refusing food, tearing his clothes, smearing himself with excrement, shouting at the top of his voice, and pacing

up and down his cell, a constant menace to himself and to the personnel. Lobotomy in such cases is often followed by remarkable reduction in the disturbed and disturbing behavior. While the patient's personality may not be equipped to meet the strains of adjustment outside the hospital, nevertheless, he can mingle with other patients and even carry out simple duties.

There is a tendency to minimize this type of improvement, to speak of improved hospital adjustment, and to criticize the operation of lobotomy as being performed for administrative reasons, to quiet a noisy and dangerous patient for the benefit of the staff. Such criticism overlooks the fact that unless the patient were suffering intensely, he would not be driven to behave in that manner. When the torment is ended by operation, the patient wakes up to a world where fear is gone, and when there is no fear there can be no hate.

Extensive experience with lobotomy programs in various mental hospitals^{4,5} shows that one-third of these patients become well enough to leave the hospital and another third become more manageable, while the remainder show little or no improvement. It is quite extraordinary that the same results are obtained in hospital after hospital and by surgeon after surgeon, using different methods, yet accomplishing approximately the same discharge rate.

The effects of standard lobotomy on the personality of the better preserved patients have been far from satisfactory. All too often the patients able to live at home or even to work before operation, have become idle drones, outspoken, tactless and irresponsible. Only in exceptional cases is the picture of the frontal dement observed, but, nevertheless, many investigations have been undertaken with a view to avoiding such distressing sequels. Graded lobotomy, unilateral lobotomy, bimedial lobotomy, and transorbital lobotomy have been developed as well as topectomy, gyrectomy, thalamotomy, and cortical undercutting. From these efforts at improvement, certain principles seem to stand out:

1. The operation must be extensive enough so

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*Read before the Neuro-Psychiatric Society of Virginia at its meeting in Richmond, November 14, 1951.

that the symptoms can be brought under control. This may occur spontaneously following operation or with the aid of further shock therapy and rehabilitation. An inadequate operation is useless.

2. The operation must not trespass upon important structures in the posterior portions of the frontal lobes; in general, it must not sacrifice too much tissue. Too extensive an operation is ruinous.

3. The older the patient the more conservative the operation. In children, however, maximal operation is needed to secure any substantial result.

4. Conservative operations are more rewarding in patients with severe painful conditions, in patients with psychoneuroses, and in most instances of agitated depression. Chronicity, however, measured in decades rather than in years, is an indication for more extensive operation, even though there is some personality downgrading. The first essential for success is relief of suffering.

5. Lobotomy should be avoided in patients with alcoholism, drug addiction (except in pain cases), criminality of the psychopathic variety, and in patients with organic brain disease except for parkinsonian and thalamic syndromes.

SELECTION OF PATIENT

The primary effect of lobotomy and similar operations upon the patient is the reduction of painful affect, the elimination of dread, of tortured self-concern. The more anxiety in the clinical picture, the more dramatic the result is likely to be. Thus, symptoms such as fear, apprehension, anxiety, and obsessive tension are strikingly relieved. Since anxiety of a self-perpetuating type is aggravated by shock therapy, severing the thalamofrontal radiation is desirable as a primary procedure, provided, of course, that in spite of conservative treatment, the patient is still faced with disability or suicide. Anxiety has a forward-looking sign when it becomes dread or apprehension and a backward-looking sign when it is tinged with guilt or remorse. Fear of the future on the basis of past misdeeds more often fancied than real, yields like magic to lobotomy.

Symptoms such as delusions, depression, obsessions, phobias, conversion reactions, and many psychosomatic complaints are favorably influenced in a majority of cases. Fixed motor patterns on a compulsive basis are more difficult to control and often

persist for a long time after the need for their exhibition is terminated. The same holds true for alcoholic indulgence.

Hallucinations occupy a special province. They are, of course, very common phenomena in schizophrenia and in the early stages of the disease are quite often abolished by lobotomy. However, when the disease has become chronic, hallucinations are apt to persist in spite of maximal interruption of the thalamofrontal radiation. When they do so, the future course of the patient is usually unfavorable. Nearly all the failures of operation are associated with persistence of hallucinations. This has led to the hypothesis that the neural process underlying hallucinations is located outside the frontal lobe, presumably in the temporal lobe. Williams and I⁶ have reported the case of a patient who was relieved of auditory hallucinations after removal of the amygdaloid nuclei. Thus a new field of psychosurgery may have been opened—but that is another story.

Poor results are obtained in patients who have given up the struggle and who accept their abnormal ideas and sensations with a certain tolerance or amusement or grandiosity. Dying out of the emotional distress is an ominous symptom as far as lobotomy is concerned.

The most satisfactory patients, from the standpoint of end results, are those with anxiety neuroses, obsessive tension states, depersonalization syndromes, agitated depressions, and chronic painful conditions with or without organic changes. The distress, both mental and physical, is usually promptly abolished. In these cases a conservative operation may be employed that preserves the patient's ability to function at a high level in his social group.

Good results may be expected in cases of early schizophrenia, that is, in patients who have been hospitalized less than a year. In such patients there is often persistence of the basically rigid personality with some likelihood of relapse in later years. Similar good to moderate results may be obtained in chronic psychasthenic reactions with many compulsions. Following operation, the patient may become a rather disagreeable aggressive individual who expresses his real feelings instead of concealing them beneath a ritual of self-punishment.

The poorest results are obtained in patients with

chronic schizophrenia although some of them are enabled to live at home. Psychotic deterioration is a substantial barrier to gainful employment.

CHOICE OF OPERATION

Psychosurgical operations have to be judged by certain criteria.

1. Safety. Any operation that carries an operative mortality of more than 5 per cent must be considered hazardous. In the hands of skilled workers, this criterion has been met by all. Major operations like topectomy and lobectomy present too many complexities to be considered safe for general adoption. Transorbital lobotomy has the lowest overall mortality rate of 1.6 per cent.

2. Effectiveness. This rules out unilateral lobotomy, at least for psychiatric cases, although its use in pain cases is often gratifying. I have two specimens in my laboratory, however, in which the surgeon unknowingly penetrated into the opposite frontal lobe through the corpus callosum. The effectiveness of prefrontal lobotomy is now pretty well known. Other operations will undoubtedly surpass its effectiveness, but at least we have a yardstick for comparison. My series of transorbital lobotomy cases compares favorably with the Freeman-Watts series.

3. Postoperative sequels. This reduces itself practically to the question of convulsive seizures. In general, the larger the area of cortical cicatrization and the closer this lies to the motor area, the greater the incidence of convulsions. It has not yet been explained why reports of large series of cases should vary so much in the incidence of convulsions. The figures run from 3 per cent to 30 per cent or more⁷. In the Freeman-Watts series of seventy cases with multiple operations, the incidence of convulsive seizures was 47 per cent. The longer the period of postoperative observation, the higher the incidence of seizures. Thus far the incidence of convulsions following transorbital lobotomy is 0.5 per cent.

4. Accuracy in the placement of incisions. The difference between success and failure may depend upon a deviation of as little as 5 mm. Posterior incisions leading to prolonged inertia and even eventual death occur infrequently, but more often with prefrontal lobotomy by either the open or closed technic.

5. The amount of nursing care and rehabilitation needed by the patient after operation. Restless pa-

tients may require strenuous efforts to prevent them from displacing the bandages and contaminating the wounds. Major prefrontal lobotomy keeps the patient in bed for four or five days at least, thus limiting the number of patients that can be under treatment at any one time. Most patients are up and about the day following transorbital lobotomy.

6. Simplicity of the operation. A lobotomy program in a state mental hospital must be considered against a background of shortage of everything but patients.

This criterion eliminates such procedures as thalamotomy and makes possible such operations as topectomy, cortical undercutting, and lobectomy only under unusual circumstances.

Transorbital lobotomy thus answers all the requirements of safety, minimal complications and nursing care, and simplicity of performance. Its effectiveness is still to be tested over a long period. It seems a little less effective in chronic cases of schizophrenia. Because of the good preservation of personality, however, this operation may be used in earlier cases of the disease with the hope of substantial restoration to social existence outside the hospital.

WHEN TO PERFORM LOBOTOMY

Most patients on admission to state mental hospitals are already in the chronic stage of their disease. They have been kept at home as long as possible and have undergone medical and other treatments. Maybe previous attacks of milder character had been relieved by shock therapy. Indeed, the history, as taken at the time of admission, may reveal emotional difficulties extending back for months if not for years. It is well to give these patients a certain period of time in the hospital for the normal process of restoration under conservative management. Approximately a third of the patients will improve in six months or less. If the patient is making no progress at the end of six months, he should be seriously considered for lobotomy. It may seem wise to postpone operation, but not in the hope that repeated courses of shock therapy will effect a restoration to normal. Reliance upon shock therapy to maintain a patient in reasonably good condition is like giving morphine to a patient with a bellyache. It clouds the symptoms and conceals the advance of deterioration. The chances of recovery after a year in the hospital go rapidly downward, not only

for schizophrenics, but also for patients with involuntional depressions. Hence it is safer to operate than to wait, both from the standpoint of the patient and from the standpoint of the family. If the family still has some hope or expectation of the patient coming home, its members will be prepared to undergo some difficulties. These difficulties are magnified into hardships if the patient is allowed to continue for an indefinite period, establishing fixed patterns of behavior in the mental hospital. Another important point in favor of earlier operation is that a simpler and more conservative operation like transorbital lobotomy may be carried out with success, while in the chronic case, a more radical operation, with consequent personality downgrading, may be required.

SUMMARY

More than one thousand lobotomy patients have been followed for a period of from two to fifteen years. The operation relieves a fixed state of tortured self-concern and thus restores a large number of patients to useful existence. It can also relieve the suffering of advanced malignant disease and other painful conditions.

Lobotomy is useful in relieving chronic mental patients of the distress that causes them to react with noisy and disturbed behavior. When their suffering is relieved, they can join other patients in useful work.

Of the various operations on the frontal lobe, transorbital lobotomy is the safest. It is well adapted to a state hospital program because of its simplicity and the minimal nursing care required.

Lobotomy should be considered in a mental patient who fails to improve after six months of conservative therapy. It is safer to operate than to wait.

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THE TREATMENT OF THE PERFORATED APPENDIX*

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Prior to the advent of the sulfonamides and the antibiotics, most surgeons advocated the conservative treatment of the perforated appendix, especially where there existed a localized abscess. Ochsner, in 1945¹⁹, summarized opinion up to that time, and advocated excision of the appendix without drainage where there was no evidence of definite and demonstrable localization. He also advised secondary closure in these cases. Conservative therapy was advocated in those cases presenting a localized inflammatory process or abscess. It has been stated that in 75

a trend toward more infrequent use of drainage^{2,9,10,18,27,28}. This is especially true in those cases of perforation where no abscess exists. Where abscess is present, however, the so-called "conservative treatment", drainage alone, or appendectomy with drainage continue to be advocated by many^{7,10,13,14,19,20,23,28}. Our experience with the following series of cases indicates that with the recent advances in pre- and post-operative care the necessity for "conservative treatment" and drainage has diminished.

During the period of April 1, 1946, through March

	Cases	% of Total	Average Days in Hospital	None	Mild	Moderate	Severe
I. Localized Peritonitis							
A. Appendectomy without Drainage	17	19.3	9.8	12	4	1	0
B. Appendectomy with Drainage	2	2.3	10.5	1	0	1	0
	19	21.6					
II. Generalized Peritonitis							
A. Appendectomy without Drainage	27	30.7	30.7	13.8	11	6	5
III. Abscess							
A. Appendectomy without Drainage	24	27.3	12.0	12	5	3	4
B. Appendectomy with Drainage	11	12.5	16.1	6	1	4	0
C. Drainage without Appendectomy	3	3.4	36.0	0	0	0	3
D. Conservative	4	4.5	26.8	—	—	—	—
	42	47.7					
	88	100.0					

TABLE I.

per cent to 80 per cent of these cases, the acute process subsides, allowing interval appendectomy at a later date. The remaining 20 per cent to 25 per cent progress to localized suppuration, requiring drainage, with subsequent interval appendectomy.

However, there has been a recent trend to more vigorous treatment of the perforated appendix, and

31, 1951, 778 appendectomies were done for acute appendicitis at McGuire V. A. Hospital, Richmond, Virginia. Of these cases, 88 (11.31 per cent) were perforated. There was no mortality in this series. This is in contrast to the mortality rate of somewhat more than 5 per cent generally reported in perforated appendicitis.

These cases were operated upon by the various members of the resident staff, full-time staff and attending staff. In those cases treated by members of the resident staff, the final decision as to the type of treatment was made by the full-time or attending surgeon responsible. No attempt was made to create

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a control series. In all cases, the type of treatment was that which appeared indicated in the individual case.

These cases have been divided, according to the pathology present, as follows: 1. Localized peritonitis, 2. Generalized peritonitis, 3. Appendiceal abscess. Further division has been made according to operative treatment. Results were measured by days of hospital stay and by number and degree of complications in an effort to compare the post-operative courses of the various groups and sub-groups. These data were as summarized in Table I.

Complications listed as "mild" include fever persisting beyond five days, mild paralytic ileus, and minor infections. Those listed as "moderate" include residual or recurrent intraperitoneal abscesses which yielded to conservative treatment, or paralytic ileus requiring active therapy, in all but two cases. There was one instance of post-operative pneumonitis and one instance of persistent and prolonged drainage following removal of a drain. The complications listed as "severe" will be described under the various sub-groups.

LOCALIZED PERITONITIS

This situation is characterized by peritoneal inflammation in the immediate neighborhood of the perforated appendix, without actual abscess formation. There may be cloudy or seropurulent fluid present but no frank pus. Lehman^{8,14}, has discussed this phase of the development of peritonitis at length, and has advanced the apt term, "the contaminated peritoneum", which would encompass most of the 19 cases in this group. Seventeen were treated by appendectomy without drainage and two were drained. There were no severe complications. It will be noted that, in general, the results in this group approximate those expected in unperforated appendicitis, and corroborate the experience of others^{9,10,18}.

It would appear that appendectomy without drainage is the treatment indicated in this type of case.

GENERALIZED PERITONITIS

The term, "generalized peritonitis", is self-explanatory, and implies spread of infection to the distant reaches of the peritoneum. The systemic effects are well known. There were 27 cases (30.7 per cent) in this group, all of which were treated by appendectomy without drainage. Average hospital

stay was 13.8 days as compared with 9.8 days in the group showing localized peritonitis without abscess.

There were 5 severe complications in this group. One patient developed a toxic psychosis and was transferred to the psychiatry service five days after operation. Two cases were classified as severe because of their markedly septic post-operative course. One of these patients had been discharged from another hospital 17 days previous to admission to McGuire, after conservative treatment for appendiceal abscess. He had been advised to have an interval appendectomy at a later date. There was one case of secondary pelvic abscess which developed a fecal fistula after drainage. The fistula healed spontaneously. Another case of secondary pelvic abscess yielded to conservative treatment. In only the latter two cases could drainage have been of possible value, and then not necessarily so, since the abscesses developed in areas remote from the site of the appendix.

There are those who still contend that exploration is not indicated in generalized peritonitis. However, it seems to us that the danger of depressing the resistance of the already damaged peritoneum is far outweighed by the advantage of removing the source of the infection. This seems a rational conclusion in view of present knowledge and methods.

We believe that the correct operative treatment in cases of generalized peritonitis secondary to perforation of the appendix is appendectomy without drainage.

ABSCESS

The term, "appendiceal abscess", implies localization with frank suppuration, effectively "walled-off" from the remaining peritoneal cavity, analogous to the "localized peritonitis" described by Lehman. There were 42 cases (47.7 per cent) in this group. The treatment instituted is listed in Table I.

Of the 24 cases (27.3 per cent) which were treated by appendectomy without drainage, there were four which showed severe complications. There were two recurrent abscesses which drained spontaneously per rectum, one recurrent abscess requiring drainage, and one case of small bowel obstruction resulting from adhesions, eventually requiring laparotomy and lysis of adhesions.

There were no severe complications in the 11 cases (12.5 per cent) treated by appendectomy with drain-

age. This fact would seem to contradict our thesis but not necessarily so. It will be noted that the ratio of all degrees of complications to the total number of cases in both groups is almost identical (12 in 24 in group A. and 5 in 11 in group B.). In addition, the group without drainage had a shorter hospital stay (12 days as opposed to 16.1 days).

All three of the cases treated by drainage without appendectomy presented severe complications. The first patient developed a second abscess following removal of the drain, and required a second drainage procedure. He was readmitted one month after discharge with intestinal obstruction which yielded to conservative therapy. He was readmitted after three months with another abscess, having failed to return for interval appendectomy. Appendectomy without drainage done at that time was followed by uneventful recovery. The second patient developed post-operative lobar pneumonia. He has not returned for interval appendectomy. The third patient sustained a second perforation 19 days after discharge. He, too, underwent appendectomy without drainage followed by uneventful recovery. Average total hospital stay in these cases was 36 days.

In the group treated conservatively, all four cases progressed satisfactorily. Two of these patients returned for interval appendectomy, the remaining two have not. Average hospital stay was 26.8 days. The second admission in the two cases of interval appendectomy average 6.5 days.

Varied indications^{7,23} and disadvantages²⁷ for drainage have been advanced, most of which are equivocal. It appears to us that if the offending appendix is removed there is seldom any need for or advantage in drainage. Further, it does not appear to us that drainage of the wound, or secondary closure, offer any advantage. However, this is not to say that drains are never indicated. Each case must be evaluated on its own and all factors considered. As Hoerr⁹ has pointed out, "the high mortality reported elsewhere in cases in which drainage was used is far more likely to be related to the fact that it is used in the worst cases, rather than to the iniquity of the drains themselves".

Drainage of an appendiceal abscess without appendectomy does not seem justified. The danger of a second perforation while awaiting interval appendectomy has been noted by Conroy³ and reaffirmed by Gramse⁵. Second perforations occur within a

shorter interval following onset of symptoms than that of the primary perforation. Gramse calls attention to the development of the false diverticula which often result at the site of previous perforations which have healed. His group of 47 cases, treated initially by drainage without appendectomy or by the conservative method, showed diverticula in 35, when appendectomy was eventually done. This aspect of the disease has not received the attention which it apparently merits. Two false diverticula were reported as incidental pathologic findings in our series.

The prolonged convalescence which follows this type of treatment and the need for further hospitalization for interval appendectomy is of obvious economic importance.

What has been stated in regard to drainage alone in appendiceal abscess may also be said of the so-called conservative treatment. In addition, in 20 per cent or more of cases, resolution of the abscess does not take place, and drainage, with or without appendectomy, must be done.

SULFONAMIDES AND ANTIBIOTICS IN APPENDICEAL PERITONITIS

There is a growing feeling that the recent improvement in results in appendiceal peritonitis is due in a large part to the use of the sulfonamides and antibiotics.

All of these patients received sulfonamides or antibiotics in various combinations and by various routes, as conditions seemed to indicate. During the first year of the series the combination of sulfadiazine and penicillin was used in the great majority of cases. Only rarely were sulfonamides used intraperitoneally, but varying amounts of penicillin were frequently used in that manner. There followed a period of approximately three years in which penicillin and streptomycin, both intraperitoneally and parenterally, were preferred. During the last year of the series most patients received penicillin and Aureomycin.

The intraperitoneal use of sulfonamides is now condemned by most surgeons, but there is less definite opinion regarding the similar use of the antibiotics. Farris⁴ has shown that the concentration of streptomycin in the peritoneal fluid after parenteral administration tends to equal that of the blood. One might argue, therefore, that intraperitoneal admin-

istration has no specific advantage. However, the local use of antibiotics would seem to provide an immediate effective concentration at the site, unimpeded by the inflammatory barrier which in some cases prevents the action of the blood-born agent.

Pulaski²² and others have shown that the flora in perforated appendicitis is varied, with as many as 5 to 16 species present, the most common being *E. coli*, aerobic and anaerobic streptococci and the *Clostridia*. Tanturi²⁶ presents evidence to indicate that the local production of the bacterial enzymes, streptokinase, hyaluronidase and lecithinase is the prime factor in producing morbidity and mortality. It is suggested that the effect of the sulfonamides and antibiotics is to destroy the various bacteria whose synergistic growth is necessary for the production of these enzymes. Kay^{11,12} has discussed the possible role of decreased prothrombin activity and of imbalance of circulating fibrinolytic and antifibrinolytic factors in the progression of appendiceal peritonitis.

Yaeger²⁹ has concluded that since Aureomycin is extremely effective against *E. coli* as well as against most strains of Gram-positive cocci, further studies may prove it to be the antibiotic of choice in the treatment of appendiceal peritonitis and he suggests the use of penicillin and Aureomycin as a "dual adjunct" in this condition. None of these cases received Terramycin or Chloromycetin. However, since Terramycin is much less prone to cause phlebitis on intravenous administration, it may eventually become a most useful drug in this condition. The development of a parenteral form of Chloromycetin may widen the scope of this drug.

OTHER CONSIDERATIONS IN TREATMENT

A detailed discussion of the treatment of appendiceal peritonitis is not within the scope of this paper. This subject has been well reviewed by others. As has been pointed out by Slatery²⁴ and others, it is difficult to evaluate the role of any single factor in the presence of so many recent advances in surgical care. Among these factors may be listed improved knowledge of and management of fluid and electrolyte balance, blood replacement, nutrition, anesthesia, post-operative ambulation, geriatric problems and operative technique in general.

SUMMARY AND CONCLUSIONS

1. A series of 88 consecutive cases of perforated

appendicitis is reviewed. There was no mortality in this series.

2. In the light of present knowledge and methods, appendectomy without drainage would appear to be the treatment of choice in all stages of perforated appendicitis with few exceptions.

3. A short review of current thought on the role of antibiotics in this condition is presented.

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Tips for the Doctor's Secretary.

Practical public relations techniques for dealing with the doctor's patients are included in two new illustrated booklets which the American Medical Association soon will make available to physicians. A 20-page pamphlet—designed as a brief guide for secretaries—will be sent to all AMA members. Especially valuable as a training guide for girls interested in becoming medical secretaries is the 60-page detailed manual which will be available July 1 to individual physicians through state medical society offices.

New Medical Films.

Several important medical and health films now

are available to state and county medical societies through the AMA's Committee on Medical Motion Pictures. Films for the lay audience include "Be Your Age" (heart disease), "Breakdown" (mental health), "Man's Greatest Friend" (animal experimentation on rabies), and "The Nation's Mental Health." Suitable for professional meetings are "Functional Anatomy of the Hand," "The Quiet One" (psychiatry), "Sciatic Pain and the Intervertebral Disc," and "Shades of Gray" (psychiatry). These films are available on a service charge basis. An up-to-date and complete list of all films added to the library in the last few months can be obtained from the Committee.

THE MANAGEMENT OF CROSSED EYES*

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The onset of strabismus or squint is gradual. Usually, however, it is after the first eighteen months and becomes very noticeable at four or five years of age as the child then becomes interested in near work, which requires accommodated efforts. The early treatment of crossed eyes or squint by glasses or medical treatment often corrects the defect. Children do not outgrow crossed eyes. Not infrequently a parent is heard to say her family doctor told her not to do anything for the child as he is too young and will outgrow it. This is a mistake. The only thing we ever outgrow is our clothes. The old adage, "As a twig is bent, so the tree will grow" is true with crossed eyes. If the condition is not corrected early, there will certainly be loss of vision due to macula degeneration, which will occur in most cases before the age of three. I cannot stress too strongly the importance of early recognition and treatment of these conditions if we are to have normal vision in these children.

If all cases of strabismus presented the classical textbook signs and symptoms, the subject would be

1. Is the patient a medical or surgical case? If it is a medical case, what treatment is indicated?
2. Should we strive for only a cosmetic result or for a cosmetic and physiological result?
3. What do we mean by physiological result?
4. When is orthoptic training indicated?
5. How soon after operation should orthoptic



Fig. 2.—Girl, age 14—Alternating Convergent Squint 90°
Operation: Recession—RMR—5 mm
Resection—RLR—9-11 mm
Recession—LMR—5 mm



Fig. 1.—Woman, age 48—Alternating Convergent Squint—90 prism diopters

Operation: Recession—LMR—5 mm
Resection—LLR—9-11 mm
Recession—RMR—5 mm
Resection—RLR—9-11 mm

of little interest; however, each one presents some variation which makes the diagnosis and treatment a difficult problem. Some of the problems are as follows:

- training be started?
6. Does a concomitant squint appear gradually or suddenly?
7. What is the age limit for surgery?
8. Classification of squint.
9. What is the anesthesia of choice?

Before attempting to answer any of the above-mentioned problems, importance should be given to a definite diagnostic routine examination for each case which is as follows:

1. Refraction under complete cycloplegia.
2. Visual acuity, fusion and diplopia.
3. Measurement of the amount of deviation (a) with and without correction, using the screen and parallax method; (b) with and without cycloplegia; (c) for distance and for near; (d) in the six cardinal directions of gaze.
4. Study of the movements of the eyes by the comitance test. This aids in obtaining information on primary restriction or secondary overaction in the different directions of gaze.

*Read before the annual meeting of The Medical Society of Virginia at Virginia Beach, October 7-10, 1951.

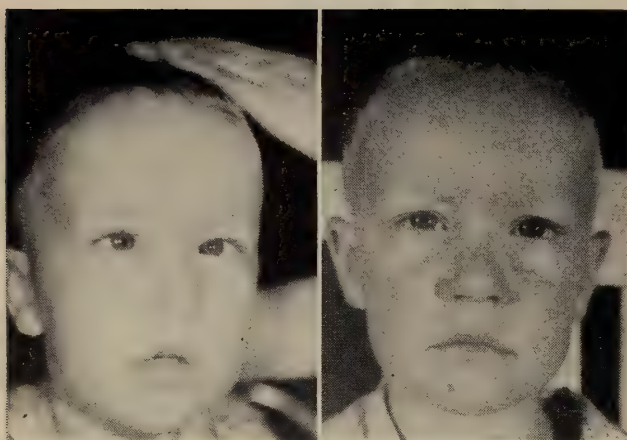


Fig. 3.—Boy, age $2\frac{1}{2}$ —Alternating Convergent Squint 80°
 Operation: Recession—RMR—5 mm
 Resection—RLR—9-11 mm
 Recession—LMR—5 mm

It is particularly helpful where you have both vertical and lateral deviation.

5. A study of the near point of convergence.

PREDISPOSING CAUSES

Predisposing causes of strabismus are many, and different authors have their own ideas. Some of the more important ones are as follows:

1. Far-sightedness.
2. Abnormal muscular variation.
3. Anisometropia—difference of the refractive error of the two eyes.



Fig. 4.—Girl, age 4—Convergent Squint— $65-75^\circ$
 Operation: Recession—LMR—5 mm
 Resection—LLR—9-11 mm
 Recession—RMR—4 mm

4. Defective ability for fusion.
5. Amblyopia or poor vision.
6. Hereditary tendency to squint.

The muscular deviation of squint may be classified as follows:

1. Paralytic
 - (a) Central
 - (b) Peripheral
 - (c) Supranuclear
2. Non-paralytic squint
 - (a) Manifest (Concomitant)
 - (b) Latent (Heterophoria)



Fig. 5.—Boy, age 2—Alternating Convergent Squint—50 prism diopters

Operation: Recession—LMR—4 mm
 Resection—LLR—9-11 mm

Concomitant squint is classified according to direction as:

1. Convergent
2. Divergent
3. Vertical
4. Mixed

The varieties of concomitant squint are:

1. Constant
2. Periodic
3. Intermittent
4. Monocular
5. Alternating

MEDICAL TREATMENT

Our medical treatment is as follows:

1. Atropinization of the eyes.
2. Occlusion of the fixing eye.
3. Correction of the refractive error.
4. Orthoptic fusion exercises.

The ideal objective is not only to have eyes straight with glasses but to be straight without glasses and to have physiological function which consists of first, second, and third degree fusion with good amplitude, normal vision in each eye and eyes parallel. Treatment should be begun as soon as the squint is definitely manifested, regardless of the age.

Orthoptic training is done under the following conditions:

1. Age must be over four years.
2. I. Q. must be good.
3. Attendance must be regular.
4. Vision in poorer eye should be at least 20/40.
5. Retinal correspondence must be normal.
6. Paralytic cases must be eliminated.
7. Marked vertical deviation must be eliminated.
8. Patient must show a good capacity for binocular vision on synoptophore.

ANESTHESIA

In children we use Vinethene and ether anesthesia. In adults we use preliminary medication and local anesthesia—sometimes retrobulbar injection. The type of operation to be done depends upon the type of squint. For correction of the lateral imbalance, we use the Lancaster modification of the resection operation, and for the recession a modification of the Jameson operation. For suture material we employ triple O plain catgut for both resection and recession and for closing the conjunctiva. We bandage the operative eye for one week and change the dressing daily. Both eyes are atropinized for three weeks. If glasses have been worn prior to the operation, we usually advise their continuance and also orthoptic training, endeavoring to secure a physiological and cosmetic result. For the correction of the

vertical imbalance, each case must be considered on its individual merits.

In selecting individual muscles for surgery, we follow three cardinal principles: (1) to weaken a strong muscle, (2) to strengthen a weak muscle, (3) to confine all surgery to the particular field involved and not to disturb normal fields. Generally speaking, it is good policy not to cripple the function of any one muscle but to spread the operation over multiple muscles. Thus, deviations of 20 to 25 diopters—one muscle; 40 to 50 diopters—two muscles; 70 diopters—three or more muscles. By adhering to these rules no one muscle is excessively crippled and the movements of convergence and divergence are well maintained.

CONCLUSION

For our experience, we feel, first, that active medical treatment should begin as soon as the squint is definitely manifested.

Second, medical treatment, which consists of atropinization of the eyes, occlusion of the fixing eye and correction of the refractive error should be thoroughly carried out before the third year of life.

Third, if medical treatment is not successful in six to twelve months, surgical correction is indicated, regardless of age.

New Industrial Health Platters Available July 15.

A new series of electrical transcriptions on industrial health will be available from the AMA's Bureau of Health Education July 15 for use by local radio stations. The 13 programs in the series point up various phases of the industrial health field. Subjects include: eye problems in industry, the ag-

ing worker, the handicapped worker, women in industry, occupational disease control, alcoholism, psychological problems of the worker in relation to supervision, absenteeism control, off-the-job time, protective clothing and plant safety, family health, the white collar worker, and control of air and water pollution. Ben Park, noted radio and television announcer, narrates the series.

PSYCHIATRIC IMPLICATIONS IN ABORTIONS*

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Last year, Dr. Besse-Lee Caine and Dr. David C. Wilson reported a study they had made of therapeutic abortions performed at the University of Virginia Hospital. This report was given before the Southern Psychiatric Society meeting at Williamsburg, Virginia, in November, 1950, and is to be published in the next number of *Neuropsychiatry*, the quarterly report of the Department of Neurology and Psychiatry at the University of Virginia Hospital.

At the beginning of this study is a review of the literature on abortions. From this review it is possible to reach several conclusions: (1) That abortions are very common occurrences in the United States. Some authors report one abortion to every one and three-tenths pregnancies; (2) That the mortality rate in therapeutic abortions is quite low, while the mortality rate in all other types of abortions, including self-induced and criminal, is approximately two per cent. The main risk is from sepsis; (3) Approximately 80 per cent of the victims of abortion are rendered sterile for a considerable period and 20 per cent of these remained sterile; (4) There are severe emotional changes in a large percentage of cases following abortion. These changes range all the way from a change in attitude toward the husband to a severe depression accompanied by suicidal ideas. 20 per cent of the patients in one series studied showed lasting psychiatric defects; (5) The study of the literature brought forth no clear indications for abortion. The present trend, as expressed in the literature, indicates that proper management of a pregnancy will permit a successful termination regardless of the physical or mental disease a patient might have. However, there are still many contradictory ideas on the subject of psychiatric indications for interference with pregnancy.

In the attempt to study persons who had had therapeutic abortions at the University of Virginia Hospital, Drs. Caine and Wilson used questionnaires and requested that patients return for special interviews. The response to this effort was very poor; indeed, so poor that few conclusions could be drawn

from the study. Nevertheless, the investigation produced two results:

(1) Six psychiatric conditions were established as justifications for performing abortions. The conditions taken as indications are as follows:

- a. Previous psychosis of severe degree related to childbirth;
- b. Acute schizophrenia complicated by pregnancy;
- c. A feeble-minded woman who has already had defective children;
- d. A woman with a definite psychopathic personality who showed signs of beginning schizophrenia;
- e. A person whose schizophrenic reaction has become somewhat adjusted, but who is still dependent on others, probably living at home or in a retreat;
- f. A severe psychoneurotic of the obsessive-compulsive type who evidenced anxiety.

(2) In October, 1950, a board was set up at the University of Virginia Hospital to consider all cases recommended by any member of the staff because of psychiatric indications for the surgical interference with pregnancy. This board is composed of an internist, a psychiatrist and a gynecologist. The recommending doctor also was to act as a board member. It was arranged that these three doctors examine the patient separately and then all four were to meet as a group to reach a conclusion regarding the proper action.

The effect of this new approach to the problem has been remarkable. From the year 1930 to 1949, there were 226 therapeutic abortions performed, an average of 11.8 abortions a year. Since the board was established a year ago, there has been only one such operation because of psychiatric reasons. The greater attention given the patient desiring the operation as well as to the conditions which made such a procedure essential, have changed what seemed to be insoluble situations demanding immediate abortion into one that could be solved to the satisfaction of all parties. It has been quite an education to the members of the board to see how much influence their

*Read before the annual meeting of The Medical Society of Virginia at Virginia Beach, October 7-11, 1951.

decision would carry. The patients have felt that they have had a fair hearing. Therefore, they have taken the conclusion of the board as final and set out to make the best of the resulting situation whatever it may be. The recommending doctor, who is so often emotionally involved, was greatly relieved to have the responsibility of the decision to operate or not removed from his shoulders.

The six psychiatric indications for interference with pregnancy proposed in the previous paper have also been under scrutiny. The fact that two severe schizophrenics, while pregnant, were treated with insulin shock without causing any apparent injury to the child and with marked improvement in the mother after normal delivery, made us feel that acute schizophrenia, no matter how severe, is not necessarily an indication for therapeutic abortion. We found that very little was known about a woman's reaction to the loss of a fetus either at the time of the event or during the years afterward, so we decided to study their reactions.

As a result, the following plan of study was formulated. Since an investigation by questionnaire had failed and since patients who were known to have had therapeutic abortions at the University of Virginia Hospital would not return for interviews, the previous method of study was abandoned. The new plan took advantage of the fact that during the taking of routine histories of patients entering all wards of the hospital, many women gave the history of a loss of a pregnancy in one way or another. Therefore, when such a report was given, the resident on the service taking the history was to ask the patient if she would object to a psychiatric interview. If no objection was made, the patient was to be interviewed by a psychiatrist on at least two occasions. These two interviews were to be one hour in duration. In the first interview, the plan of study was explained, in this way giving the reason for the interview. Next, the type of interruption of pregnancy was determined. Was it spontaneous or induced? If induced, was it self-induced or by another person? If another person, was it a legal or criminal affair? The age of the fetus at the time of the interrupted pregnancy was determined. Was the child obviously alive before the loss? Was it alive after birth, or was it born dead? In the third place, the attitude of the mother to the pregnancy was reviewed, then the im-

mediate reaction to the separation of the fetus, and, finally, the reaction at the present time.

This form of study has gone on since July 1, 1951. When the plan was organized it was decided that at least two hundred patients should be interviewed before definite conclusions could be reached in regard to the value of this method. The present report is based on a more detailed study of twenty-five patients who have been either patients of the writer, persons who had been patients on the psychiatric service, or persons in the community who were known well enough for the investigator to feel certain of the facts obtained in his intimate interview. These patients have had many hours of study, so the conclusions drawn here are based on a thorough knowledge of these individuals.

Several findings have been so constant in their presence in this small sample that they seem worthy of comment. First, however, I should like to report in more detail the results of some of the interviews.

The first case is that of a housewife of twenty-seven. At the time of the miscarriage she was twenty-six. She had one son, age $3\frac{1}{2}$ years, and one daughter $1\frac{1}{2}$ years old. She is now pregnant. The following is a quotation of her description of her loss of pregnancy:

"My miscarriage came as a complete surprise to me as I had not realized that I was pregnant. Although I had missed a period, I had supposed it due to emotional stress at the time.

"In spite of the lack of anticipation of a new child, I felt a terrific loss and was most depressed. Actually, it would have been a most inconvenient time for us to have had this child, but that fact did not console me at all as I knew we could have made out. The doctor's rationalization that the child probably was defective did not help my spirits as I was convinced that the whole thing was my fault—that I should have known and taken better care of myself. I was constantly brooding over the child (although it was only a 6 week fetus), what it might have looked like, what it could have been. It took several months to think sensibly about it and I was determined to have another as soon as possible. I became pregnant again about a year later and am having a normal pregnancy with no trouble. I will always regret my miscarriage, wonder why, and feel that one child is missing."

The emotional response described here is typical of the depression and guilt feelings. The fact that

there is no apparent justification for guilt does not prevent its appearance.

The next case is that of a mother of four children. She is now fifty and her fifth pregnancy occurred when she was thirty-five, soon after her last child was born. A therapeutic abortion was done because of psychiatric and physical indications during the first few weeks of pregnancy. There were, according to the record, no complications, yet fourteen years later she states that she has always felt a loss. She has feelings of guilt and depression. She shows frequent emotional disturbances, depression, with an escape into alcoholism. The abortion is still a vivid factor in her life, needing constant repression. Apparently there was no depression immediately, but there was a year later and has been at intervals since.

The third case is that of a woman of thirty-five who has been a psychopath since she was fifteen. She is certainly one in whom you would expect very few guilt feelings. She described her reaction to a therapeutic abortion done ten years ago and a criminal abortion done one year ago. Both were done during the early weeks of pregnancy. There was no infection following either abortion. She stated that she had no feeling toward the fetus in either instance. In regard to the first episode, she did like the father at the time of conception although she did not know him too well. She has hated him ever since. He is still in the community. She was quite depressed and felt guilty. She had many religious qualms which disturbed her for some time. In regard to the second episode, she was approximately two months pregnant at the time of the abortion. She went through all kinds of difficulties to get rid of the fetus. Her boy friend managed the whole affair. He has been quite anxious to marry her but she has refused. After the abortion, she went into a deep depression and made an attempt at suicide, causing her hospitalization. She states now, two years later, that her depression lasted six months and that her sexual feelings did not return for a year. She said she had no religious scruples about the business the second time nor did she have any feelings of guilt about the operation. She just got horribly depressed and stayed that way. Two years later she still has a great deal of anxiety when on the streets and does not like to go out alone.

The next case is that of a woman who has had two criminal abortions. She tried to escape her

guilt by rationalizing. The first operation was forced on her by her brother and her mother because her husband was worthless, had abandoned her, and they did not want to support the child. She claimed she had no immediate reaction, but three months later she went into a severe anxiety reaction with a great deal of depression and many hysterical manifestations. Her regression to child-like whining and crying was quite striking. After this, she recovered sufficiently to support herself for eight years in a normal manner. This spring she again became pregnant in an illegitimate fashion and again was "forced" to have a criminal abortion by her boy friend. Following this, she made a suicidal attempt and was referred to our service. Her illness lasted two months, having all the characteristics of the previous one. She now has returned to work. She stated that she had no feelings of guilt regarding the abortions. They were forced on her and were not her fault. She was not to blame for her seduction, and so on. Nevertheless, she went into a severe emotional illness lasting two months after being well for over five years.

Another variation in the picture is offered by a woman of forty who, four years ago, was pregnant for the first and last time. She was very sick during the pregnancy. Finally, the fetus died. It was removed from the womb by a hysterotomy. She states now, as she looks back that her feelings have always been those of relief and that there was no depression following the operation. She did cry for two days when she knew that the fetus was dead. Nevertheless, she has had a lot of domestic difficulty ever since and has lost her love for her husband. She claims that there is no relationship between the loss of the child and her present reaction, yet the two have coincided.

One woman had a stillborn baby at seven months, a baby of seven months that lived a few hours, then a child who has lived, and, finally, another child born at seven months that lived for only a short period. After this last episode, she became markedly depressed. Verbalizing her grief over the loss of her children seemed to help a great deal. Recently she has had paranoid ideas regarding her husband. There was no question of interference here but the depression occurred nevertheless.

The next case is that of a mother of fourteen children. All lived but the last, which was born

dead. Following this, she became markedly depressed and had to be hospitalized.

Finally, there was a young lady of twenty-one who was separated from her illegitimate baby immediately after its birth. She was not allowed to see it or to know where it went. When she came to see me three months later, she was mildly depressed. She had feelings of unreality with disassociation. She complained of an empty feeling and a feeling of loss. This condition lasted for six months, then began to improve. When I last saw her a year ago, she discharged me because she was convinced that she could handle her own problems.

The weakness of this present report is due to the fact that the majority of the cases have come to a psychiatrist for one reason or another. These reactions, therefore, may not be typical of that large number of women who have abortions, yet never ask for psychiatric help. We should be able to reach this other type of individual by means of study of the patients in the general wards of the hospital, a study that we plan to carry out.

However, there are a few general conclusions that can be drawn from the review reported here: (1) The reaction to the abortion should always be taken seriously, no matter in what month of pregnancy or under what conditions it is carried out, and will depend in large measure on the personality of the woman. (2) There is a more marked response to the child as such the more that child has established itself as a living entity. Children that are born alive or are separated after birth, have more lasting, although not necessarily a more profound effect on the emotions of the mother. (3) This study does not bear out the contention that abortion causes sterility, since many women after abortions of all types became pregnant immediately. (Nevertheless, in all the cases of criminal abortion and in some of those of the therapeutic type, there was an immediate hostile reaction to the sexual partner). (4) In all cases except the one in which the baby died *in utero*

and was later removed, there was always a feeling of depression and of guilt formation far beyond that justified by the circumstances. This reaction was usually immediate, but might appear months later. The reaction might reach psychotic proportions carrying with it a suicidal threat. This depression reaction often came in those people who denied any feelings of guilt regarding their behavior.

In conclusion, we have reviewed the findings from the study of twenty-five women who have lost a child while it was a fetus or just after birth. The loss was spontaneous in some cases, induced in others. In all, there were certain findings of a psychiatric nature which were present with sufficient frequency to be worth recording. These are: (1) The importance of the personality make-up regardless of the situation; (2) The more the movements and other evidences of life in the fetus, the more severe are the responses to its loss; (3) In all cases, whether the abortion was spontaneous or induced, or whether early or late in the pregnancy, there is danger of a depression reaction of severe degree. This reaction may occur several months after the loss of the child. The psychiatric implications to the loss of pregnancy are serious in so large a number of cases that the physician should be on guard and should attempt to relieve underlying feelings of guilt; (4) The separation from the child after birth does not seem to have such a profound effect, although the memory of the loss is more lasting; (5) While there was no evidence of the sterilizing effect of abortion, there was evidence of a change in reaction toward the sexual partner. This reaction has been overlooked or at least not given the emphasis that it deserves. The attitude seems to be a very deep-seated affair, probably a result of projection of underlying feelings of guilt, but, nevertheless, a most universal finding. The change in feeling toward the sexual partner lasts for some time after the abortion and may have many complicating factors added to it, so that it becomes a cause of much of the domestic unhappiness that exists in such cases.

RUPTURED VASA PREVIA

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Velamentous insertion of the umbilical cord is not an uncommon occurrence, the usual figure quoted being in the neighborhood of 1%¹⁻⁵. However, we are certain that if all placentae were carefully examined, the incidence of membranous insertions in varying degrees would be much higher. Too frequently, this placental abnormality is overlooked, or, if found, not recorded. Its importance is usually noted only when the major complication, vasa previa, occurs—and then only if genital bleeding and/or a dead baby results.

In a most excellent review of this subject by Rucker and Tureman⁴ in 1949, it was emphasized that vasa previa was essentially a fetal complication. We should like to reemphasize this point. Its importance lies in the fact that it must be differentiated from placenta previa and premature separation of the placenta, which are essentially maternal complications. Since the latter complications may be urgent and require immediate treatment, the psychological atmosphere of these emergencies may cause one to overlook the possibility of a ruptured

vasa previa. The treatment of the latter is very different in that essentially there is none.

After the rupture of vasa previa, the fetal blood loss is great and rapidly results in a dead baby before the true diagnosis is made. From the list of cases summarized by Rucker and Tureman⁴, of the thirty-three cases in which rupture occurred and the effect on the baby noted, twenty-five babies died, or 76%. Of the eight who lived, seven were born per vaginam and one by cesarean section. Of the seven delivered vaginally, the placental vessel ruptured in two cases when the cervix was fully dilated and delivery was immediate.

Treatment, therefore, is dependent upon both accurate diagnosis and the state of the cervix. Ruptured vasa previa can be easily differentiated from placenta previa and premature separation of the placenta. With placenta previa, the diagnosis is made by a vaginal examination and the presence of placental tissue palpated. With premature separation, the differentiation may be a little more difficult. Usually, the patient is uncomfortable, the uterus is

TABLE I

	Ruptured Vasa previa	Placenta previa	Premature separation
Signs & symptoms of shock	Absent	May be present	May be present
Bleeding	Never more than fetal & plac. volume—app. 300-400 cc. Not progressive	Varying amounts. Usually more than 400 cc. Progressive	Varying amounts. Usually more than 400 cc. Progressive
Pain	Absent	Absent	Present
Uterus	Not tender. Relaxes between contractions	Not tender. Relaxes between contractions	Tender. May be tense and hard
Fetal heart tone	Usually absent	Absent or present	Absent or present
Membranes	*Ruptured	Ruptured or intact	Ruptured or intact
Placenta	Not palpable	Palpable	Not palpable

*Case reported by Groseclose (6) the membranes were intact

tender and relaxes poorly between contractions. There may be marked changes in the blood pressure and pulse. However, dependent upon degree, there usually is the picture of maternal catastrophe. Table I tabulates the major differences between these three placental complications.

Once the diagnosis of ruptured vasa previa is made, the treatment is dependent upon the degree of dilation of the cervix. If the cervix is fully dilated, prompt delivery of the baby is imperative. If vaginal delivery can not be instituted at once, expectant treatment is in order. Cesarean section probably has no place in the treatment of this complication, for by the time it could be performed, the baby would have bled to death. The mother needs no treatment, for, as Rucker and Tureman⁴ pointed out: "Few obstetrical conditions carry so much risk for the baby, and so little for the mother."

The following is a case report of a patient with ruptured vasa previa which was diagnosed before delivery:

Mrs. M.C., a 20 year old white primigravida, was first seen in our office on 11-21-50. History, physical examination and laboratory data were not remarkable. Her prenatal course was uneventful. Her E.D.C. was 4-23-51. On 5-5-51 (12 days after her E.D.C.), membranes spontaneously ruptured while the patient was asleep. The time was estimated at 1:45 A.M. Fifteen minutes later, she felt her first painful contraction and fifteen minutes after that, at approximately 2:15 A.M., patient noted sudden, moderately profuse vaginal bleeding. She immediately called one of us (G.S.), and was admitted to the labor room at 3:00 A.M. (45 minutes after onset of bleeding). On examination, the patient was comfortable, with pulse, respirations and blood pressure all within normal limits. Contractions were mild and every five minutes. Bleeding was minimal. The vertex was engaged in LOA position. No fetal heart sounds were audible. The uterus relaxed well

between contractions and was not tender at any point. A pelvic examination revealed no evidence of placenta previa or low lying placenta. The vertex was engaged, membranes ruptured, the cervix almost completely effaced and dilated one finger.

In view of the above findings, it was felt that placenta previa was ruled out. Any degree of placental separation great enough to kill the baby would certainly have revealed itself by some maternal sign (e. g., changes in pulse or blood pressure, tender abdomen, etc) of which there was none. It was, therefore, felt that the source of blood was probably fetal and the most likely diagnosis ruptured vasa previa. Therefore, patient was allowed to continue her labor. After a labor of sixteen hours, a stillborn female infant was delivered by one of us (P.E.H.). The baby weighed seven and one-half pounds and was markedly pale. The placenta was easily expressed after two minutes, was pale in color and revealed a velamentous insertion of the cord with an obvious point of rupture in one of the veins along the rent in the amnion.

SUMMARY

1. A case of ruptured vasa previa is reported.
2. Differential diagnosis is discussed.
3. Treatment is considered.

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BENIGN SOLITARY GRANULOMATOUS ULCERATION OF THE CECUM

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Inflammatory lesions of the cecum are extremely uncommon, and are rarely diagnosed correctly prior to exploration. A recent article in one of the current issues of the *Annals of Surgery*¹ focused our attention on this rare and obscure malady, and since we were privileged to have recently treated a patient with this disease we felt that it was worthy of reporting. In the article referred to above the literature is reviewed, and the reference is given in the bibliography for those who may be interested in this phase of the subject.

Eighty cases of this disease entity were collected by Barlow² in 1941. Since then three cases were reported by Harrison,³ and one by Cromar,⁴ bringing the total to eighty-four. Cruvelhier is credited with the first description of simple cecal ulcer in his *Atlas of Anatomy and Pathology in 1830*.⁵ Except for clinical observations accumulated through the years very little has been added to clarify the obfuscation which has always been associated with this and other granulomatous lesions of the gastro-intestinal tract. Perhaps in time with the accumulated data of reported observations some correct understanding and evaluation of these lesions will become apparent. No mention of the subject of ulceration of the gastro-intestinal tract would be complete without reference to the article of most far reaching consequences, and the one which did most to popularize this subject. Crohn, Ginzberg and Oppenheimer⁶ published in the *Journal of the American Medical Association* in 1932 their monumental and oft quoted description of "regional ileitis", a disease frequently, and most often referred to as "Crohn's disease". In January, 1949, in this same publication, one of us (JLS), in an article, "Benign Nonspecific Neoplasms of the Gastro-Intestinal Tract",⁷ attempted to differentiate this from the so-called Crohn's disease. The clinical differences were stressed, and the similarity of the microscopic appearances were alluded to.

Cecal ulceration has been found in ages from 18 to 70. It is twice as common in men although our case reported here was a white female, age 29. Since

the disease is outstanding as an example of solitary ulceration of the gastro-intestinal tract, numerous etiologic analogies between it and peptic ulcer have been marshalled. These theories of poor blood supply, changes in pH, stasis with mucosal trauma, etc., do not bear critical investigation. The theories of cause and effect are legion, but departing from the realm of theory and even fantasy, nothing concrete is known about the cause of simple cecal ulcer.

Experience has proved that early operation is the only feasible treatment. The following operative attacks have been advocated:

1. Closure of ulcer with drainage.
2. Local excision of the ulcer with drainage.
3. Right hemicolectomy (procedure of choice).
4. Exteriorization.
5. Simple drainage.

The best results have been achieved with right hemicolectomy. As was true in our case, the similarity with carcinoma of the cecum was too great to afford the luxury of a simple procedure, and right hemicolectomy was done. Before the age of antibiotics the mortality was 40%, but with the advent of these valuable adjuncts a much more wholesome fate can be predicted for current victims of this disease.

In the present case a photomicrograph of the lesion is shown. The view as shown is photographed utilizing polarized light, and a highly refractile crystal is seen. As has been repeatedly emphasized, this may be a talcum granule, but, as emphasized by Gruenfeld⁸ in a recent article, this is by no means diagnostic. As he points out an expert petrographic analysis is necessary to ascertain the chemical nature of crystals. Cellulose fibers, mineral deposits, cholesterol and many other foreign bodies can produce a similar microscopic appearance. Grossly, the lesion reported did not resemble the usual talc granuloma described in many articles dealing specifically with this lesion.

CASE REPORT

Miss B. M., No. 8093B, a 29 year-old white wom-

an, was admitted to the Mary Washington Hospital on April 24, 1951, complaining of abdominal pain of one week's duration. The pain was cramping in nature, and had gradually increased in severity. There had been slight nausea, but no vomiting, and there had been no diarrhea or melena. She had also noted a skin rash of the same duration. Her past history revealed that she had had an appendectomy elsewhere ten years ago for "subacute appendicitis". Convalescence had been normal, and she had had no further abdominal symptoms. Past history and family history were otherwise non-revealing.

Physical examination showed a well developed but thin white female not apparently in any distress. There was a slightly scaly macular skin rash over the trunk and extremities characteristic of pityriasis rosea. E.E.N.T. examination was negative. The heart and lungs were negative. Examination of the abdomen revealed a hard, slightly tender mass 2 or 3 centimeters in diameter in the region of the cecum. The rest of the colon was not tender, and there was no muscle spasm. Pelvic and rectal examination were negative. Extremities were negative. The temperature was 98.6.

Laboratory examination showed the W.B.C. to be 14,500, with 80% polymorphonuclears, 17% lymphocytes, and 3% eosinophiles; hemoglobin was 13.9 gm. %. Urinalysis was normal. Blood Kahn was negative. A barium enema examination with particular attention to the cecum showed a slight irritability of the cecum, but the mucosal pattern appeared intact as did that of the terminal ileum. A miniature chest film was normal.

After preparation with sulfathalidine, vitamin K, and other adjuncts necessary for large bowel surgery, operation was performed on 4/27/51. Under general anesthesia the abdomen was entered through a mid-right rectus muscle-splitting incision. A mass was noted at the tip of the cecum which was firm and scarred; the mass appeared to be 4 x 2 cm., and invaded the entire wall of the cecum. Several small soft nodes were noted in the mesentery. The colon was mobilized with ease, and because of the similarity to carcinoma a right hemicolectomy was decided upon. The terminal 8 inches of the ileum, all of the ascending and that portion of the transverse colon supplied by the superior middle colic artery was resected. Continuity was restored by a side-to-side anastomosis. During the procedure the

patient received 500 c.c. of whole blood, and she withstood the procedure well. Her post-operative course was smooth and uneventful. The wound healed *per primum*, and she was discharged from the hospital 5/7/51, on the tenth post-operative day. When last seen three months later she was non-symptomatic, and appeared to be in good health.

PATHOLOGY REPORT

Specimen consisted of lower portion of ileum and portion of large bowel. The serosa of the cecum was thickened and puckered from scarring. On opening the specimen an area of ulceration 1½ cm. in diameter was noted. The ulcer extended down to the muscularis. The wall of the adjacent cecum was thickened, forming a mass 4 x 2 x 3 cm. The edges of the ulcer were thickened and rolled. Several lymph nodes were included in the mesentery. Microscopically one noted an ulcer in the cecum extending through the muscularis, the base of which was covered by an acute inflammatory exudate. Beneath and lateral to this ulcer there was an extensive granulomatous inflammation. Many fibroblasts and macrophages were present, the latter being filled with cellular debris. Polymorphonuclear and lymphocytic cell were rare. A study of the tissue using polarized light (see Figure 1), revealed the presence of a num-

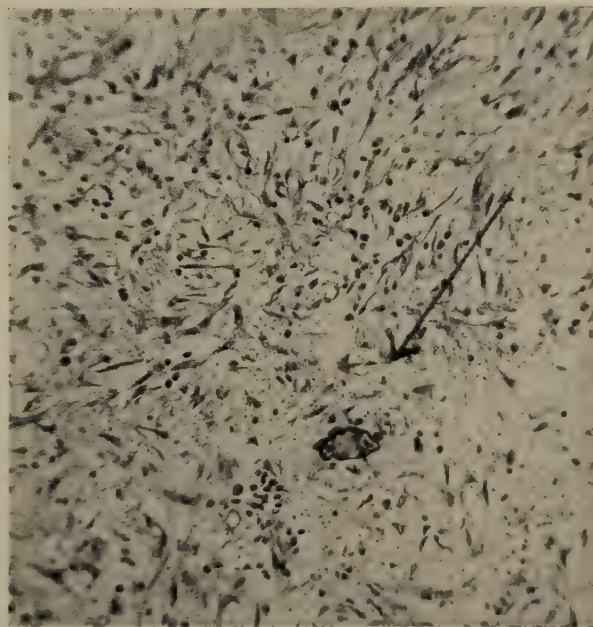


Fig. 1—High-powered magnification with the use of polarized light reveals the presence of a double refractile crystal. The crystal is possibly a talc crystal, but it is impossible to be absolutely certain of the nature of this crystal.

ber of doubly refractile crystals, many of which were

in giant cells. The reaction seen was typical of that from a foreign body.

SUMMARY AND CONCLUSIONS

A case of benign solitary granulomatous ulceration of the cecum presumably due to reaction to talc is reported. A brief summary of the literature is presented.

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Report Successful Short-Term Treatment of Heart Condition.

A two-week's course of intensive penicillin therapy has proved successful in the treatment of subacute bacterial endocarditis, a subacute inflammation of heart valves due to bacterial infection, it was reported by Drs. Morton Hamburger and Leon Stein, of the University of Cincinnati College of Medicine and the Cincinnati General Hospital, in June 7 J.A.M.A.

Former methods of penicillin therapy required from four to eight weeks to effect the same results, the eradication of the bacterial infection under the new procedure, intramuscular or intravenous injections of 15 to 16 million units of penicillin are administered daily for a period of two weeks.

Twelve patients, ranging in age from 13 to 57 years and with considerable diversity of valvular involvement, were so treated by the doctors. Ten are still living after periods ranging from one and one-half to four and one-half years, giving a survival rate of 83.3 per cent. The two deaths which occurred in the group studied followed cessation of treatment, but autopsy showed that bacteriological cure had been effected in both patients, the doctors stated. Two of the 12 patients had relapses, but were suc-

cessfully treated in a second two-week's course. Of the 10 living patients, the doctors pointed out, only two are not leading essentially normal lives—one because of advanced cerebral deterioration with paralysis on one side of the body, and the other because of cerebral and cardiac symptoms of advanced aortic stenosis.

According to the doctors, there was no correlation between the duration of symptoms prior to treatment and the clinical or bacteriological recovery.

"Though the relapse rate of 16.7 per cent is no lower than that achieved by longer dosage schedules, the practical and economic value of a two to six-week's reduction in hospitalization is obvious," the doctors stated. "Penicillin is now relatively inexpensive. The death rate of 16.7 per cent is perhaps lower than that usually reported.

"Since our experience in these 12 cases is statistically too limited to permit our drawing conclusions as to the practicality of wide application of this method, our purpose in reporting these cases is to stimulate further investigation of shorter dosage schedules.

"It is possible that the combination of penicillin with streptomycin, or with one of the newer antibiotics, may still further reduce the relapse rate."

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

What Will Happen in Poliomyelitis in Virginia in 1952?

With the critical season in poliomyelitis upon us, it is natural for practicing physicians, health authorities and parents to be anxious as to what the Virginia poliomyelitis experience will be this summer.

In the United States a total of 421 cases was reported for the week ended June 21, 1952. This represents an increase of 43% over the preceding week. More than half of this increase occurred in the States of Texas, California, Ohio, Iowa and New York. The cumulative total of poliomyelitis cases for the disease year is 1,780 as compared with 1,190 for the corresponding period of last year.

With Texas as a focus of high incidence, the 146 cases of poliomyelitis reported in that State for the week ended June 21, 1952, is the largest number of cases ever reported for a single week in Texas. Over 30% of the week's total was centered in the Houston area, Harris County.

In the following table are summarized the total

was the same number of cases as was reported in the same period for the relatively light year of 1951. This year 18 cases had been reported through June 30, 1952.

MONTHLY MORBIDITY REPORT OF THE BUREAU OF
COMMUNICABLE DISEASE CONTROL

	June 1952	June 1951	Jan.-June 1952	Jan.-June 1951
Brucellosis -----	4	7	13	33
Diarrhea & Dysentery --	69	222	1111	1076
Diphtheria -----	2	5	46	68
Hepatitis -----	59	2	362	8
Measles -----	1704	2570	14653	12784
Meningitis				
(Meningococcal) ----	11	10	118	77
Poliomyelitis -----	8	6	18	21
Rabies in Animals -----	39	27	308	97
Rocky Mt. Spotted Fever	13	13	21	20
Scarlet Fever -----	64	27	516	669
Tularemia -----	2	1	28	21
Typhoid & Paratyphoid -	11	4	32	23

The course of poliomyelitis in years of high incidence in Virginia repeats a pattern of marked similarity. In these years the number of cases re-

REPORTED CASES OF POLIO IN VIRGINIA JANUARY-JUNE 30, AND FOR CALENDAR YEAR

Year	1935	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952
June 30														
total	65	8	12	7	15	14	26	9	17	19	11	21	21	18
Total for														
year	685	241	155	43	61	756	335	143	173	567	337	1200	267	

number of reported cases of poliomyelitis in Virginia in 1935, and yearly since 1940, and the number of cases reported for the period ending June 30, in each year.

A review of this table indicates that the number of cases reported through the six months ending June 30 is of little help in forecasting the experience for the entire year. This is sharply outlined by the figures for 1950, when, with the largest number of reported cases (1200) in the State's history, only 21 cases had been reported through June 30. This

ported by weeks begins to mount in early July, sometimes with explosive force as in the Wytheville outbreak of 1950. Weekly reporting achieves a high in the second or third week of August, takes a drop, then mounts again to a lesser peak in early September, and then with an occasional flareup gradually declines to December.

In years of high incidence this pattern repeats itself with such similarity as to imply significance, although the exact significance has so far eluded students of the disease.

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.

Commissioner, Department of Mental Hygiene and Hospitals

Administrative Problems Peculiar to the Mental Hospital*

Relatives and family physicians of patients in mental hospitals are often puzzled by the many differences in procedure in administration of the mental hospital from similar matters in the usual general hospital. These differences are brought about by a number of factors including the size, the type of staff organization, and the type of patient with consequent differences in treatment, the methods of admission and release, the method of financing, and the average length of stay of patients.

Size is not unique, but as a general thing mental hospitals are much larger and fewer than general hospitals. They are customarily built with numerous buildings, most of which are purely residential with diagnostic and treatment facilities concentrated in a few. A general hospital, though, is usually a one-building structure, with perhaps a few auxiliary buildings such as nurses' homes, etc. The reasons for the different type of structure in the mental hospital will be apparent from the following:

Customarily, a mental hospital has a closed staff of full-time resident doctors. Consultants, of course, are used but are on a fee or retainer basis paid by the hospital rather than by the patients or their families. The patients do not compensate the physicians except in rather unusual situations where the family or the patient specifically requests consultation. The mental hospital policy is to welcome visits from the family physicians whose recommendations are always gladly received and are followed if possible.

The type of patient accounts for most of the broad differences. Symptoms of mental illness are preponderantly psychological in nature rather than somatic. Most patients are ambulatory, and since they are not in bed most of the time such problems as the care of personal clothing become large. We not only have to store the patient's private clothing, but it has to be laundered or cleaned; it has to be accounted for, and it has to be repaired and replaced. There is also a great difference in the food

service in a mental hospital from that seen in a general hospital. In the general hospital most patients are fed by individual trays in bed and many have specialized diets. Most patients in the mental hospital are on a general diet and are served at a table or cafeteria counter in a large dining room. Of course, in the medical and surgical section of a mental hospital some patients have tray service and special diets, but they are only a small percentage of the total patient population.

Other problems of custody arise. While the number of patients who are destructive, suicidal, or dangerous are not a very large percent of the total number under care, the number is large enough that general provisions for such problems need to be made. Detention screens, an elaborate locking system, provision for surveillance, avoidance of exposed piping, and other construction designs are used. The buildings are constructed for durability and low maintenance cost.

Another administrative field in which the general hospital and the mental hospital differ is in the process of admission and release. In general hospitals the patients are, with rare exceptions, there voluntarily. The process of admission is quite simple. In the mental hospital most of the patients do not come voluntarily, and some type of admission document is required of all of them. The majority of the patients are under legal restraint which implies a more elaborate and specific process of release as well. In a general hospital the patient who is not satisfied with the treatment being received can ordinarily put on his clothes and walk out. Our patients cannot depart so informally.

In the field of diagnosis and treatment our patients all require psychiatric attention, and most of them also need some type of physical care as well. However, the treatment in the physical field is ordinarily quite seriously affected by the patient's mental state. The patient is not always able to give a good history of his current complaint and is not always cooperative to examination and treatment. Sometimes psychiatric consideration actually contra-indicates certain orthodox physical treatments. For example, in a patient who has been addicted to drugs, opiates

*Article prepared by Granville L. Jones, M.D., superintendent, Eastern State Hospital, Williamsburg, Virginia.

are often not available for the control of pain, spasm, etc. In the field of psychiatry there are few specific remedies. Most psychiatric treatments, either psychological or physiological, require administration over a rather prolonged period of time. Psychiatric conditions are usually not self-limited and tend to become chronic unless effective treatment is carried out. Since there is much leisure time and the patients are mostly ambulatory, the use of occupation, recreation, and social activities is much more important in the mental hospital program than in the general hospital. These activities are, for the most part, individually prescribed and based on definite therapeutic theories and are not merely "time killing".

In the past high emphasis was put on work in the mental hospital, and the maintenance and operation of the hospital was carried out largely by patient labor. Usually there was extensive farming operation, both because it made for low cost and because there was a surplus of able-bodied labor on the grounds. With modern treatment, which is much more effective, patients do not stay in the hospital nearly so long, and there are not nearly so many able-bodied chronic patients to do the work. Also, in recent years the percentage of patients in the old age group has increased tremendously, and obviously old people can do no great amount of work.

This has resulted in the need for many more employees in proportion to patients and also has brought about a change in the philosophy of patient labor. We cannot plan the operation of the hospital on the availability of a large amount of "free" labor. Together with this there is the recent change in policy on the part of the State which requires that patients who can pay should pay for their care. Obviously this has created some question on the part of patients and their families as to the ethics of requiring work for anything beside definite therapeutic reasons.

One other important difference between the state mental hospital on the one hand and the private mental hospital and the general hospital on the other, is the fact that in the state mental hospital the ability to pay does not enter into the treatment or residential accommodations provided. We do not assign patients to private rooms merely because they want them and can pay for them, but because they require seclusion or isolation for medical or psychiatric reasons. We do not provide special nurses on the basis of ability to pay; only if and when they are urgently required. It is hoped that private practitioners will bear this in mind and not send patients in expecting that they can obtain private or special accommodations by paying an increased fee.

AMA Fellowship Abolished.

The AMA's House of Delegates officially abolished fellowship in the Association at its June sessions in Chicago. Provision has been made for service, affiliate and honorary fellowships to be incorporated in the membership classification. All candidates for membership in the Association will be screened by the Judicial Council prior to acceptance.

Question of Internship Up for Study.

The whole status of medical internship—including supply and demand—is being re-studied by a special committee under the auspices of the AMA's Council on Medical Education and Hospitals. Dr. Victor Johnson, director of the Mayo Foundation for Medical Education and Research, is chairman of the committee which is made up of outstanding leaders in the hospital field throughout the United States.

MISCELLANEOUS

A Personal Tribute to Dr. Joseph T. Buxton, Founder of The Elizabeth Buxton Hospital

Elbert Hubbard says that great men become great in spite of institutions. On Doctor Buxton's plaque we read: "A great institution is but the lengthening shadow of a great man."

This institution is a combination of, or may I say the result of a combination of, faith, courage, ability and integrity of a man who inherited both gracious manners and a pleasing personality—his motto: "Never Too Busy To Be Polite".

My friend was a "Progressive", not from Wisconsin but from the progressive state of North Carolina. He could prove or disprove a theory by careful analysis, he could say "No" and mean it, he could ask: "How do you know" and help you to the answer. In fact he dared to think for himself and then publish his thoughts. Frequently the first by whom the new was tried but never the last to lay the old aside.

His selection of this beauty-spot for a hospital facing the rising sun in the East and looking out over the great expanse of water was in itself evidence of good sound business judgment and a keen appreciation of the reflected beauties of "Old-Mother-Nature"—always at her best as the sun sinking in the west is shooting her golden rays heavenward.

And now, coming down to earth, here I stand facing you fellows. Yes I am looking into the faces of you gentlemen who ten, fifteen, twenty, twenty-five, even thirty years ago entered here either as residents or student interns. Your intense interest in your work and your loyalty to this institution was a fair measure of the man under whom you trained.

As you developed into successful practitioners along the lines of your respective callings, the doctor was pleased with the "finished-product", you were pleased with the hospital and we are all happy in our associations on the staff of one of the best hospitals in the country.

And now to you, Sisters of Mercy, we've not "come to the parting of the ways", we are here anxious to cooperate that together we may continue to carry on this noble work, hold high the ethical standards, maintain the religious atmosphere, and

in fact preserve every quality of excellence practiced here by that great surgeon, scholar, teacher and physician, my old trusted friend—Doctor Joseph T. Buxton.

Given by Dr. Joseph C. Cutler, Staff Member for thirty-five years, at the last Staff meeting as the Hospital was turned over to the Sister of Mercy.

"Why the Private Practice of Medicine Furnishes This Country With the Finest Medical Care"

* * * *

We, the American people have a priceless heritage. This heritage stems from a tradition of freedom which antedates by centuries the establishment of this nation and the adoption of its written constitution. We believe in the inherent rights and the sanctity of the individual. To us government exists merely to serve the individual who authorizes and supports it. The resultant is our Freedom of Enterprise Society which provides independent individual action for both the doctor and the patient. The private practitioner has initiative, courage, incentive, self respect, enthusiasm and industry. "It is only in an atmosphere of freedom that the lamp of science and learning can be kept alight. In all the history of the race, progress has never flowed in a subject people. It is only free men who dare to think, and it is only through free thought that the soul of a people can be kept alive." Freedom of research and practice in the United States has brought the American People to the world's most advanced position in medical science.

Under the private practice of medicine we have freedom of choice. We can choose our own doctor, hospital, and type of service. The Voluntary Way is the American Way.

No matter how efficient scientific treatment may be, it may be rendered more effective by the proper patient-physician relationship, which allows the physician to make full use of his personality in obtaining and maintaining the maximum confidence and comfort of his patient. "There comes a time in the life of all of us when the cold hard facts of science do not prevail. In the dark hours of sorrow and trouble, no amount of scientific service can take

the place of the intangible things, sympathy, cheerfulness, confidence.”

* * * *

The family doctor stands out in the average community. Our relations with him are characterized by a faith which we extend to no other person except our spiritual adviser. On the sickbed or the operating table, we cannot help feeling a dependence on his skill, his experience, and his devotion. He is definitely an indispensable part of what we know as our American way of life.

Try to picture your family physician as a salaried government employee, and at once you perceive all that professional freedom and responsibility mean in the service that he renders. Could you be sure he would answer your call on a dark rainy December night? Could you call him at any time for advice? Would there be a friendly atmosphere between you and your government doctor?

Under the private practice of medicine we have prospered; this country has received the finest medical care in the world. In contrast we may look at another medical system, used in foreign countries. Let's look at the system which is now threatening American Freedom as well as American medicine.

Socialized medicine, first of all, destroys the independence of medicine and the doctor-patient relationship—everything that is good in the private practice of medicine. Once medicine is delivered into the clutch of a socialistic federal bureaucracy, the book of freedom is closed. Compulsion begins. Scientific progress falters. Professional standards of quality become involved, rules and regulations set forth from Washington. Winston Churchill says: “We must beware of trying to build a society in which nobody counts for anything except a politician or an official, a society, where enterprise gains no reward and thrift no privileges.”

Your medical records under the American system of medicine are the sole business of your doctor and yourself. With political medicine the characteristics and many of the most intimate and sacred personal problems of each and every patient would become

a public record. Would you wish your medical records placed in the hands of a “local committee” of your neighbors?

Political medicine is a waste of money. It calls for heavy taxes. The big worry in the American home today is not the medical bill but the tax bill. There is much red tape involved in a government health program. One man—a “czar,” a dictator—is at the head of the nation's entire medical program. A patient is a number. Based on experience in other countries, it would take at least 300,000 lay bureaucrats to administer the system. To get a doctor you might have to apply to a Bureau. Surely, American veterans realize the waste of time and effort absorbed in governmental functions. Nothing can be done about the patient who chisels more than his share of service; nothing can be done about a doctor who shuns his share of the drudgery. To adopt political medicine would only increase the taxes of an already tax-burdened people.

* * * *

Let us profit from other nations' mistakes. England, Germany, Russia and France all had the same results with a socialized health program. In these countries there has been a decline in the quality of medical care, increased taxation, invasion of the patient's privacy, a reduction in medical education and research, a new hierarchy of government administrators to run the program, and extension of controls over other professions and businesses. If socialized medicine is not good for other countries, will it furnish our country the finest medical care?

The supporters of political medicine should be reminded of Aesop's famous fable of the dog and the bone. The dog crossing a bridge with a large bone in his mouth, looked down into the water and saw another dog with a bone. He very logically reasoned that he might improve his position if he could possess the other bone. In his enthusiasm he dropped the bone he had. Let man beware, lest in his eagerness for something else he loses what he has.

* * * *

BILL CARR,
Gulfport, Miss.

Presidents of the Medical Society of Virginia

PRESIDENT	YEAR OF MEETING	PRESIDENT	YEAR OF MEETING
*Dr. James McClurg, Richmond	1821	*Dr. J. R. Gildersleeve, Tazewell	1901
*Dr. William Foushee, Richmond	1822	*Dr. R. S. Martin, Stuart	1902
*Dr. William Foushee, Richmond	1823	*Dr. J. N. Upshur, Richmond	1903
*Dr. James Henderson, Richmond	1824	*Dr. Joseph A. Gale, Roanoke	1904
Meetings Discontinued.		*Dr. Wm. S. Christian, Urbanna	1905
*Dr. Robert William Haxall, Richmond	1841	Dr. Lomax Gwathmey, Norfolk	1906
*Dr. Robert William Haxall, Richmond	1842	*Dr. Paul B. Barringer, Charlottesville	1907
*Dr. Frederick Marx, Richmond	1843	*Dr. Wm. F. Drewry, Petersburg	1908
*Dr. Thomas Nelson, Richmond	1844	*Dr. Stuart McGuire, Richmond	1909
*Dr. William A. Patteson, Richmond	1845	*Dr. E. T. Brady, Abingdon	1910
*Dr. William A. Patteson, Richmond	1846	*Dr. O. C. Wright, Jarratt	1911
*Dr. John A. Cunningham, Richmond	1847	*Dr. Hugh M. Taylor, Richmond	1912
*Dr. William A. Patteson, Richmond	1848	*Dr. Southgate Leigh, Norfolk	1913
	1849	*Dr. Stephen Harnsberger, Catlett	1914
*Dr. Robert William Haxall, Richmond	1850	*Dr. Samuel Lile, Lynchburg	1915
*Dr. Beverley R. Wellford, Fredericksburg	1851	*Dr. Joseph A. White, Richmond	1916
*Dr. James Beale, Richmond	1852	*Dr. Geo. A. Stover, South Boston	1917
*Dr. Thomas P. Atkinson, Danville	1853	*Dr. Ennion G. Williams, Richmond	1918†
*Dr. Carter P. Johnson, Richmond	1854	*Dr. Ennion G. Williams, Richmond	1919
*Dr. H. C. Worsham, Dinwiddie	1855	*Dr. Paulus A. Irving, Farmville	1920
*Dr. H. C. Worsham, Dinwiddie	1856	*Dr. Alfred L. Gray, Richmond	1921
*Dr. James Bolton, Richmond	1857	*Dr. E. C. S. Taliaferro, Norfolk	1922
*Dr. Levin S. Joynes, Richmond	1858	*Dr. John Staige Davis, University	1923
Meetings Discontinued		*Dr. W. W. Chaffin, Pulaski	1924
*Dr. R. S. Payne, Lynchburg	1870	*Dr. Hunter H. McGuire, Winchester	1925
*Dr. R. S. Payne, Lynchburg	1871	Dr. W. L. Harris, Norfolk	1926
*Dr. A. M. Fauntleroy, Staunton	1872	*Dr. J. Shelton Horsley, Richmond	1927
*Dr. Harvey Black, Blacksburg	1873	*Dr. J. W. Preston, Roanoke	1928
*Dr. A. G. Tebault, London Bridge	1874	*Dr. J. Bolling Jones, Petersburg	1929
*Dr. S. C. Gleaves, Wytheville	1875	*Dr. Charles R. Grandy, Norfolk	1930
*Dr. F. D. Cunningham, Richmond	1876	*Dr. J. Allison Hodges, Richmond	1931
*Dr. J. L. Cabell, University	1877	*Dr. I. C. Harrison, Danville	1932
*Dr. J. H. Claiborne, Petersburg	1878	*Dr. J. C. Flippin, University	1933
*Dr. L. S. Joynes, Richmond	1879	Dr. R. D. Bates, Newtown	1934
*Dr. Henry Latham, Lynchburg	1880	*Dr. F. H. Smith, Abingdon	1935
*Dr. Hunter McGuire, Richmond	1881	Dr. P. St. L. Moncure, Norfolk	1936
*Dr. G. W. Semple, Hampton	1882	Dr. J. M. Hutcheson, Richmond	1937
*Dr. W. D. Cooper, Morrisville	1883	*Dr. G. F. Simpson, Purcellville	1938
*Dr. J. E. Chancellor, Charlottesville	1884	Dr. A. F. Robertson, Jr., Staunton	1939
*Dr. S. K. Jackson, Norfolk	1885	*Dr. H. H. Trout, Roanoke	1940
*Dr. Rawley W. Martin, Chatham	1886	Dr. W. B. Martin, Norfolk	1941
*Dr. Bedford Brown, Alexandria	1887	*Dr. Roshier W. Miller, Richmond	1942
*Dr. Benjamin Blackford, Lynchburg	1888	Dr. J. M. Emmett, Clifton Forge	1943
*Dr. E. W. Row, Orange C. H.	1889	*Dr. C. B. Bowyer, Stonega	1944
*Dr. Oscar Wiley, Salem	1890	Dr. H. B. Mulholland, Charlottesville	1945
*Dr. W. W. Parker, Richmond	1891	*Dr. Julian L. Rawls, Norfolk	1946
*Dr. H. Grey Latham, Lynchburg	1892	Dr. W. L. Powell, Roanoke	1947
*Dr. Herbert M. Nash, Norfolk	1893	Dr. Guy R. Fisher, Staunton	1948
*Dr. Wm. P. McGuire, Winchester	1894	Dr. M. Pierce Rucker, Richmond	1949
*Dr. Robt. J. Preston, Abingdon	1895	Dr. W. C. Caudill, Pearisburg	1950
*Dr. Wm. L. Robinson, Danville	1896	Dr. C. Lydon Harrell, Norfolk	1951
*Dr. Geo. Ben Johnston, Richmond	1897	Dr. John T. T. Hundley, Lynchburg	1952
*Dr. Lewis E. Harvie, Danville	1898		
*Dr. Jacob Michaux, Richmond	1899		
*Dr. Hugh T. Nelson, Charlottesville	1900		

*Deceased.

†Owing to influenza epidemic during World War I, the council met in 1918, and Dr. Williams was continued as President.

PROGRAM
(PRELIMINARY)
105TH MEETING
THE MEDICAL SOCIETY OF VIRGINIA
THE JEFFERSON HOTEL
RICHMOND

SEPTEMBER 28, 29, 30 AND OCTOBER 1, 1952

Sunday, September 28

3:00 P.M.

Council

7:00 P.M.

House of Delegates—Dinner Meeting

Monday Morning, September 29

9:30 A.M.

Section A—Auditorium

Frank B. Stafford, M.D., Presiding

SYMPOSIUM ON CHEST CONDITIONS

9:30 A.M.—PATHOLOGICAL PHYSIOLOGY OF CHRONIC LUNG DISEASE—John L. Guerrant, M.D., Charlottesville

Patients with chronic lung disease usually have emphysema, fibrosis, bronchial obstruction, or vascular disease. Symptoms are due to: Poor pulmonary ventilation with poor mixing of gases and increased resistance to flow of gases. Ventilation and perfusion disassociation within the lung. Poor diffusion through alveolar walls. Obstruction to flow of blood through branches of pulmonary artery.

9:45 A.M.—THE CLINICAL MANAGEMENT OF THE PULMONARY INVALID — William H. Barney, M.D., Lynchburg

A brief discussion of the medical management of patients with advanced pulmonary disease in which there is decrease in the respiratory reserve, so that invalidism results. Diseases discussed include pulmonary emphysema, inoperable bronchiectasis, and chronic bronchitis. Discussion is in regard to management in general, with particular reference to mechanical drainage and aerosol therapy.

10:00 A.M.—THE VALUE OF ROUTINE SPUTUM TESTS IN THE AGED AS A WEAPON FOR THE ERADICATION OF PULMONARY TUBERCULOSIS—W. E. Roye, M.D. and Paxton T. Powers, M.D., Richmond

The last stronghold of tuberculosis will be in the

aged. The official agencies by changing their methods may accomplish a great deal, but this age group is not amenable to mass measures. The local medical doctor becomes the key figure, and the sputum test becomes his most obvious weapon.

10:15 A.M.

Recess to Visit Exhibits

10:45 A.M.—REMARKS ON THE TUBERCULIN TEST and BCG VACCINE—William R. Kay, M.D., Richmond

A brief discussion of the value of the tuberculin test as a very useful weapon in the epidemiology and control of tuberculosis and its particular value as a diagnostic aid in the patient with an obscure illness or a suspicious pulmonary lesion together with a brief review of the method of tuberculin testing. Also, a brief review of the use of BCG vaccine and arguments favoring its use in selected groups in spite of the fact that the use of BCG vaccine does destroy the value of the tuberculin test to a very great extent in vaccinated individuals.

11:00 A.M.—MANAGEMENT OF TUBERCULOSIS IN CHILDREN—Edwin L. Kendig, Jr., M.D., Richmond

The pathogenesis of tuberculosis, the prognosis and diagnosis of tuberculous infection in children are discussed. A brief resume of treatment is also outlined.

11:15 A.M.—RECENT TRENDS IN THE TREATMENT OF PULMONARY TUBERCULOSIS—Frank B. Stafford, M.D., Charles G. Pearson, M.D., and Lee B. Brown, M.D., Charlottesville

During recent years therapy in pulmonary tuberculosis has undergone rather drastic changes. Much has been added to increase the patient's chances for recovery. The use of antibiotics, along with various surgical procedures have produced good immediate results in properly selected and carefully programmed cases. This paper deals with a review of these procedures illustrated with cases and results obtained.

An attempt will be made to show the trend from some of the older forms of therapy and the rationale and value of the newer methods of treatment.

11:30 A.M.—PRESENT TRENDS IN PULMONARY SURGERY—E. C. Drash, M.D., Charlottesville

Suspected intrathoracic tumors can now in most cases be as safely explored as abdominal masses. Careful surgery, transfusions and expert anesthesia have made intrathoracic operations safe. Most marked changes have occurred in surgery of pulmonary tuberculosis. Resection of lung tissue has apparently superseded some of the older methods. Figures compare the results of inadequate preparation with antibiotics and more recent cases which have had prolonged antibiotic therapy before and after operation.

11:45 A.M.—DISCUSSION PERIOD

Section B—Flemish Room

Walter P. Adams, M.D., Vice-President, Presiding

9:30 A.M.—TREATMENT OF BURNS—Charles H. Lupton, M.D., Norfolk

Severe burns are surgical emergencies, and both the early local and early general treatments should be carried out promptly and simultaneously. Modified M. C. V. Ointment with occlusive pressure dressings is the preferred early local treatment. Skin grafting should be performed early. High caloric, high protein diet and frequent blood transfusions are indicated.

9:55 A.M.—TREATMENT OF GROIN HERNIAS—Carrington Williams Jr., M.D., Richmond

Present day concepts in treatment of groin hernias include early ambulation, use of non-absorbable sutures, and the principle of the Cooper's ligament repair for direct inguinal and femoral hernias. Modifications as applied to management of infants and children are stressed.

10:15 A.M.

Recess to Visit Exhibits

10:45 A.M.—CERTAIN REPARATIVE SURGICAL PROCEDURES OF THE UPPER RESPIRATORY TRACT—G. S. Fitz-Hugh, M.D., F. D. Woodward, M.D., and C. N. Moon, Jr., M.D., Charlottesville

Certain congenital and acquired conditions of the upper respiratory tract, necessitating surgical correction, are considered. The cases presented are examples of anterior nasal, posterior choanal, pharyngeal, and laryngeal obstruction of a structural nature rather than the commoner inflammatory and neoplastic diseases. (*Lantern Slides*)

11:10 A.M.—TRANSORBITAL LOBOTOMY IN RE-

FACTORY EMOTIONAL AND MENTAL DISORDERS—Edwin J. Palmer, M.D., Roanoke

The paper is based on experiences gained in private practice wherein 50 transorbital lobotomies were performed on 47 cases with a 93.7% favorable outcome. Results indicate that its expanded application would return many of the chronic psychiatric population to useful community lives. (Five case reports and eighteen slides)

11:35 A.M.—CHOLECYSTECTOMY AS EMPLOYED FOR THE TREATMENT OF ACUTE AND CHRONIC CHOLECYSTITIS AND CHOLELITHIASIS—John D. Adams, M.D., and J. P. Cary, M.D., Clifton Forge

The routine employment of cholecystectomy in patients suffering from acute and quiescent gall bladder disease with particular emphasis upon the selection of treatment for patients in the acute stage.

Monday Afternoon, September 29

2:00 P.M.

General Session—Auditorium

MEDICAL THERAPEUSIS SYMPOSIUM

Julian R. Beckwith, M. D., Clifton Forge, Moderator

2:00 P.M.—CONTRA INDICATIONS AND HAZARDS IN THE USE OF CORTISONE AND ACTH—Kenneth Crispell, M.D., Charlottesville

2:15 P.M.—THE PRESENT STATUS OF THE TREATMENT OF ANEMIA—Byrd Leavell, M.D., Charlottesville

2:30 P.M.—USE OF ANTICOAGULANTS IN CARDIOVASCULAR DISEASE—John McKee, M.D., Winchester

2:45 P.M.—ANTIBIOTIC SYNERGISM AND ANTAGONISM IN THERAPY—Alto E. Feller, M.D., Charlottesville

3:00 P.M.—DRUG THERAPY FOR HYPERTENSION—Herbert G. Langford, M.D., Richmond

3:15 P.M.—MANAGEMENT OF EMOTIONAL FACTORS IN DISEASE—A. D. Hart, M.D., Charlottesville

SYMPOSIUM — WHAT IS THE MEDICAL PROFESSION DOING TO SOLVE THE SOCIO-ECONOMIC PROBLEMS OF MEDICINE?

3:35 P.M.—PROTECTION AGAINST THE EXPENSES

OF UNEXPECTED HOSPITALIZATION AND MEDICAL CARE—John O. Boyd, Jr., M.D., Roanoke

3:45 P.M.—PROVIDING AN ADEQUATE SUPPLY OF WELL-TRAINED PHYSICIANS—John B. Truslow, M.D., Richmond

3:55 P.M.—DOCTOR PLACEMENT IN VIRGINIA—Henry B. Mulholland, M.D., Charlottesville

4:05 P.M.—THE PHYSICIAN AS A CITIZEN—Wyndham B. Blanton, M.D., Richmond

4:15 P.M.—PROTECTION OF THE INTEREST OF THE PATIENT—(to be announced)

Monday Evening, September 29

8:30 P.M.

Auditorium

Call to Order—Kinloch Nelson, M.D., Chairman, Committee on Arrangements

Invocation

Announcements

Awarding of Certificates to Members in "Fifty Year Club"

Address by President—John T. T. Hundley, M.D., Lynchburg

Memorial Hour—William R. Whitman, M.D., Chairman, Membership Committee

Address—(To be announced)

Tuesday Morning, September 30

9:30 A.M.

Section A—Auditorium

Ira L. Hancock, M.D., Vice President, Presiding

9:30 A.M.—ACUTE BARBITURATE POISONING—William H. Higgins, Jr., M.D., Richmond

The increased use of barbiturates has been accompanied by an alarming rise in poisoning due to this drug. The enhancement of the effect of barbiturates by the concomitant use of alcohol through their synergistic action is stressed. The signs, symptoms, and treatment of barbiturate intoxication are discussed and a case of severe barbiturate intoxication complicated by alcoholism successfully treated is presented.

9:55 A.M.—DON'T DO THIS FOR ASTHMA!—Oscar Swineford, Jr., M.D., Charlottesville

The correct usage and common errors in the use of Epinephrine, Aminophyllin, Oxygen, ACTH and

Cortone, Sedatives, Expectorants, Antibiotics, Antihistamines, Elimination Diet, Information Obtained from Skin Tests, and Allergen Injections.

10:20 A.M.

Recess to Visit Exhibits

Section B—Flemish Room

Walter P. Adams, M.D., Vice-President, Presiding

9:30 A.M.—DIVERTICULOSIS OF JEJUNUM—Harry J. Warthen, Jr., M.D., Richmond

Diverticulosis of Jejunum, a frequently overlooked cause of gastro-intestinal bleeding, is difficult to diagnose roentgenologically and often is unrecognized at operation unless this possibility is kept in mind and steps are taken to demonstrate the sacculations.

9:55 A.M.—PARACENTESIS ABDOMINIS—Martin B. Hiden, M.D., Warrenton

Attention is invited to the objections of tapping the abdomen through the abdominal wall. The advantages of tapping the abdomen in the female via the vagina, cervix, and posterior wall of the uterus are described.

10:20 A.M.—CANCER DETECTION — George Zur Williams, M.D., Richmond

General Session—Auditorium

John T. T. Hundley, M.D., President, Presiding

10:45 A.M.—ROUNDTABLE DISCUSSION OF NON-MALIGNANT DISEASES OF THE BOWEL—

Members of Roundtable:

Charles M. Caravati, M.D., Richmond,
Chairman

F. R. Whitehouse, M.D., Lynchburg

Andrew D. Hart, M.D., Charlottesville

Edward B. Mewborne, M.D., Newport News

Carrington Williams, Sr., M.D., Richmond

Hugh R. Butt, M.D., Rochester, Minn.

Among the topics to be discussed are (1) Regional Ileitis, (2) Non-Tropical Sprue, (3) Spastic Colon, (4) Idiopathic Ulcerative Colitis, and (5) Diverticulitis.

11:45 A.M.—CURRENT CONCEPTS OF PANCREATITIS—Hugh R. Butt, M.D., (Guest), Rochester, Minnesota

Tuesday Afternoon, September 30

2:00 P.M.

Section A—Auditorium

Mary Elizabeth Johnston, M.D., Vice-President,
Presiding

2:00 P.M.—INDICATIONS FOR HYSTERECTOMY—

Gordon Douglas, M.D., (*Guest*), New York,
N. Y.

2:45 P.M.—ROUNDTABLE DISCUSSION OF OBSTETRICAL AND GYNECOLOGICAL PROBLEMS

Members of Roundtable:

Henry C. Spaulding, M.D., Richmond,
Chairman

Norman Thornton, M.D., Charlottesville

John R. Kight, M.D., Norfolk

Waverly Payne, M.D., Newport News

Hudnall Ware, M.D., Richmond

Andrew Groseclose, M.D., Roanoke

Gordon Douglas, M.D., New York, N. Y.

The Roundtable will include the following discussions: (1) Modern obstetrical analgesia and anesthesia, (2) Recognition of pre-eclampsia and pre-hospital therapy of pre-eclampsia, (3) Modern hormonal therapy in functional uterine bleeding, (4) Postpartum hemorrhage, and (5) The immediate care of a premature infant.

Section B—Flemish Room

Ira L. Hancock, M.D., Vice-President, Presiding

2:00 P.M.—SYNCOPE ASSOCIATED WITH HYPER-

ACTIVITY OF THE CAROTID SINUS—James B.
Twyman, M.D., Charlottesville

A classification of carotid syncope is given. Illustrative cases with lantern slides are presented.

2:25 P.M.—MISSED DIAGNOSIS IN CORONARY ACCIDENT—J. Edward Payne, M.D., Arlington

Thirty-five per cent of all heart deaths are due to coronary accident. These deaths are increasing steadily despite improved treatment. Methods are suggested to decrease such deaths.

2:50 P.M.—THE CLINICAL USE OF DIGITALIS PREPARATIONS IN THE MANAGEMENT OF CONGESTIVE HEART FAILURE—Reno R. Porter, M.D., and R. P. Beckwith, M.D., Richmond

This presentation deals with the place and use of digitalis in the management of congestive heart failure in the light of present concepts of pathogenesis. The various digitalis preparations will be discussed as to their special features and advantages.

3:15 P.M.—HIATUS HERNIA AS AN OBSCURE CAUSE OF ANEMIA—R. Vincent Crowder, Jr., M.D., and George B. Craddock, M.D., Lynchburg

Seven patients demonstrating the association of hiatus hernia and anemia are reported. The anemia is discussed in some detail and the etiology, pathology, incidence, symptoms, diagnosis, complications, and treatment of hiatus hernia are briefly covered.

3:40 P.M.—THE USE OF REHABILITATION MEDICINE IN THE COMPLETE TREATMENT OF HEMIPLEGICS—A. Ray Dawson, M.D., Richmond

This paper is based on the experience gained in using Rehabilitation Medicine in the complete treatment of hemiplegics during the past four years at the McGuire Veterans Administration Hospital and the Medical College of Virginia. (*Slides*)

4:00 P.M.

House of Delegates—Flemish Room

Tuesday Evening, September 30

6:00 P.M.—Cocktail Party

7:00 P.M.—Banquet

Wednesday Morning, October 1

9:15 A.M.

Section A—Auditorium

Walter P. Adams, M.D., Vice-President, Presiding

9:15 A.M.—FIBROCYSTIC DISEASE OF THE PANCREAS—Helen Morton, M.D., Gordon R. Henigar, M.D., and Lee E. Sutton, Jr., M.D., Richmond

An evaluation of theories of causation and pathogenesis is presented emphasizing the generalized distribution of the pathology as pointing to a common pathogenic denominator. Characteristic histologic and radiologic appearances of chest organs (cor pulmonale) is described. Attempted morphologic correlation is made between cystic fibrosis found in adult pancreases at autopsy and childhood fibrocystic disease.

9:45 A.M.—SOME DIAGNOSTIC FEATURES OF CARCINOMA OF THE PANCREAS—James O. Burke, M.D., and Kemp Plummer, M.D., Richmond

The diagnostic features observed to be of significance in carcinoma of the pancreas as gleaned from case records of patients dying of carcinoma of the pancreas are presented. The paper will be limited to the general feature of this disease, so that it should be of some interest to all practitioners. Lantern slides will be used to emphasize these significant diagnostic points.

10:10 A.M.—PANCREATITIS—J. Robert Massie, Jr.,
M.D., Richmond

This is a discussion of all forms of pancreatitis, including acute hemorrhagic and necrotizing forms, chronic relapsing pancreatitis and the milder cases of this disease. No tumors are discussed. The etiology, pathology, diagnosis and treatment are taken up. Cases are presented representing each variety of pancreatitis. (*Lantern Slides*)

10:35 A.M.—ASPIRIN POISONING—Emily Gardner,
M.D., Richmond

Case report of 18 months old child with autopsy findings. Review of more recent literature as regards dosage of aspirin, toxic manifestations, forces causing sequence of events leading to toxic symptoms, methods of combating toxicity and the importance of caution in use of aspirin with infants and young children.

Section B—Flemish Room

Mary Elizabeth Johnston, M.D., Vice-President,
Presiding

9:30 A.M.—CONGENITAL MUSCULAR TORTICOLLIS
—Milton Josiah Hoover, Jr., M.D., Richmond

This paper compares the methods of treatment of congenital muscular torticollis. Whether an early operative procedure or daily muscle stretching and other conservative measures is the better method of handling the affected patient is the basic problem presented.

9:55 A.M.—PRELIMINARY REPORT ON RESECTION
RECONSTRUCTION OF THE FEMORAL HEAD—E.
D. Vere Nicoll, M.R.C.S., Charlottesville

The Judel type of operation has been used for the treatment of osteoarthritis of the hip, acute fracture of the femoral neck and old ununited fracture of the femoral neck with absorption of the neck.

10:20 A.M.—MEDULLARY NAILING—ITS APPLICATION
TO FRACTURES AND ORTHOPAEDIC SURGERY
—William M. Deyerle, M.D., Richmond

Reporting forty-seven medullary nails used over

the past five years. The technique is illustrated as well as the pitfalls and complications encountered with the use of this method. Lantern slides show comparative end results and various points in the techniques. Cases include fractures of the femur, humerus, clavicle, forearm and old non-union cases.

11:00 A.M.

General Session—Auditorium

CLINICOPATHOLOGICAL CONFERENCE

Kinloch Nelson, M.D., Moderator

Installation of James L. Hamner, M.D., as President
Announcements and Adjournment

Wednesday Afternoon, October 1

2:00 P.M.

MEDICOLEGAL SEMINAR—Auditorium

Under the auspices of the State Department of Health, The Chief Medical Examiner's Office, Department of Legal Medicine, Medical College of Virginia and the Virginia Society of Pathologists of Legal Medicine.

Wyndham B. Blanton, M.D., Moderator

2:00 P.M.—THE HUMAN SKELETON IN LEGAL
MEDICINE

2:30 P.M.—THE PROBLEM OF MALPRACTICE

3:00 P.M.—EVERYDAY TOXICOLOGY

3:30 P.M.—SUDDEN DEATH

4:00 P.M.—RECENT ADVANCES IN LEGAL MEDICINE

4:30 P.M.—ROUNDTABLE DISCUSSION

(The names of the outstanding national medicolegal authorities to discuss these subjects will be announced later.)

SCIENTIFIC EXHIBITS

Care of Syphilitic Patients at Central State Hospital. M. S. Brent, M.D., Superintendent, Central State Hospital, Petersburg.

History of Old Medicine. Old Drug Jars. W. R. Bond, M.D., Richmond.

Sarcoidosis of the Lungs and Mediastinum. Samuel Richman, M.D., X-Ray Department, McGuire VA Hospital, Richmond.

Timing of Premedication. Harold F. Chase, M.D., and Patricia Andrews, M.D., University of Virginia, Charlottesville.

Congenital Heart Disease. Carolyn M. McCue, M.D., Reno R. Porter, M.D., and Lewis H. Bosher, Jr., M.D., Medical College of Virginia, Richmond.

The Surgery of Mitral Stenosis. Lewis H. Bosher, Jr., M.D., Medical College of Virginia, Richmond.

Cross Section. Woodrow Wilson Rehabilitation Center. Herbert W. Park, M.D., Woodrow Wilson Rehabilitation Center, Fishersville.

Technique of Duodenal Intubation Using a Magnet. John W. Devine, M.D., and John W. Devine, Jr., M.D., Lynchburg.

Cystic Fibrosis of the Pancreas. Helen Morton, M.D., Gordon R. Hennigar, M.D., and Lee E. Sutton, Jr., M.D., Medical College of Virginia Hospitals, Richmond.

Practicing Physician and Tuberculosis Control. Nancy E. Lutz, Virginia Tuberculosis Association, Richmond.

Blue Shield Plan. Virginia Medical Service Association, Richmond.

Department of Health, Office of Chief Medical Examiner. G. T. Mann, M.D., Chief Medical Examiner, Richmond.

Psychiatric Symptoms—Organic Neurological Disease. Benedict Nagler, M.D., James B. Funkhouser, M.D., E. T. Terrell, Jr., M.D., Jack L. Ulmer, M.D., Simon Russi, M.D., and Samuel Richman, M.D., McGuire VA Hospital, Richmond.

Interpretation of the Serologic Tests for Syphilis. Harry Pariser, M.D., James W. Love, M.D., W. Ross Southward, Jr., M.D., Allen Pepple, M.D., and William H. Kauffman, M.D., Norfolk.

Amblyopia Exanguinata. William F. Hatcher, M.D., Roanoke.

Mechanical Quackery. Public Relations Committee, The Medical Society of Virginia, Richmond.

You Can Reduce. Public Relations Committee, The Medical Society of Virginia, Richmond.

Medullary Fixation of Bones. William Minor Deyerle, M.D., and Virgil R. May, Jr., M.D., Medical College of Virginia Hospitals, Richmond.

Routine Tuberculin Test in Young Children. Edwin L. Kendig, M.D., Medical College of Virginia, Richmond.

Mental Hygiene Educational Exhibit. The Mental Hygiene Society of Virginia, Richmond.

Experimental Renal and Pulmonary Lesions Produced by Brain Stimulation. Ebbe Curtis Hoff, Ph.D., M.D., Medical College of Virginia, Richmond.

Trilene Analgesia in Obstetrics. H. Hudnall Ware, M.D., Williams E. Pembleton, M.D., Thomas Walker, M.D., Medical College of Virginia, Richmond.

Toxicological Studies on Alcohol. H. B. Haag, M.D., Sidney Kaye, M.S., Jo Lo Ferguson, and Jack S. Garrison, M.S., Departments of Pharmacology and Legal Medicine, Medical College of Virginia, Richmond.

Clinical Electroencephalography in the General Practice of Medicine. I. S. Z. as, M.D., Richmond.

The Reproduction of Heart Sounds for Teaching Purposes. Reno R. Porter, M.D., Howard McCue, M.D., and Armistead D. Williams, M.D., Medical College of Virginia, Richmond.

Technique of Fenestration Surgery, Rhinoplasty Surgery and Surgical Correction of Crossed-Eyes. E. G. Gill, M.D., H. L. Bell, M.D., F. D. White, M.D., Gill Memorial Eye, Ear and Throat Hospital, Roanoke.

Plastic Surgery. Leroy Smith, M.D., Richmond.

Diabetes. Thomas S. Edwards, M.D., Virginia Diabetes Association, Charlottesville.

Surgical Lesions of the Ureter. William J. Frohbose, M.D., and Austin I. Dodson, M.D., Richmond.

Color Photographs of Eye Lesions, Internal and External. Charles A. Young, Sr., M.D., Charles A. Young, Jr., M.D., and Newland W. Fountain, M.D., Roanoke.

Cancer Detection. Virginia Academy of General Practice—Broadus Gravatt, M.D., Kilmarnock, W. R. Morton, M.D., and George Z. Williams, M.D., Richmond.

TECHNICAL EXHIBITS

Technical Exhibits will be set up in the Jefferson Court of the Jefferson Hotel. The following is a list of exhibitors with a brief description of each exhibit:

Booth No. 1

C. B. Fleet Company, Incorporated Lynchburg, Virginia

C. B. Fleet Company, Inc., cordially invites you to stop at Booth 1 to see the exhibit of Phospho-Soda (Fleet). Phospho-Soda (Fleet) is a solution containing in each 100 cc. sodium biphosphate 48 gm. and sodium phosphate 18 gm.

Phospho-Soda (Fleet) over the years, has won discriminating preference of physicians—because of its controlled action—its freedom from undesirable side effect—and its ease of administration.

There is only ONE Phospho-Soda (Fleet).

Booth No. 2

Picker X-Ray Corporation White Plains, New York

The Picker X-Ray Corporation invites you to visit our exhibit where the latest accessories and equipment available for x-ray work are on display. A staff of technical specialists will be pleased to assist you with any x-ray planning or technical problem.

Booth No. 3

The Stuart Company Chicago, Illinois

All members of the Society are cordially invited to stop by the Stuart display and see an outstanding new product—Stuart Lipotaine—a new lipotropic approach.

Lipotaine uses the new material Betaine, which permits larger doses of active lipotropes, yet is naturally pleasant tasting and completely non-toxic even in large doses.

Your local Stuart salesman will be on hand to discuss this interesting new product as well as all other Stuart specialties.

Booth No. 4

The Dominion Laboratories Richmond, Virginia

The physicians attending the meeting are invited to visit our exhibit where a representative will display some of our specialties: Barbamin, Colbesal, and Ophthalmic Polyvitamin. He will gladly answer your questions and arrange to supply your requests.

Booth No. 5

Zimmer Manufacturing Company Warsaw, Indiana

Zimmer Manufacturing Company, with its distributors George W. Baxter and Harley Baxter, welcome the physicians and surgeons of Virginia to their booth during the coming annual meeting. A complete line of fracture

equipment including the new Eicher Prostheses and all other type Hip Prostheses will be shown. We will also have for demonstration the New Brown Electro Dermatome, the most revolutionary surgical device for skin grafting now available for immediate delivery.

Booth No. 6

The Coca-Cola Company Atlanta, Georgia

Ice-cold Coca-Cola served through the courtesy and cooperation of the Richmond Coca-Cola Bottling Works, Incorporated, and The Coca-Cola Company.

Booth No. 7

Pet Milk Company St. Louis, Missouri

Specially trained representatives will be in attendance to discuss the use of Pet Milk in infant feeding, and to present many services that are time-savers for busy physicians. Miniature Pet Milk cans will be given to visitors at the exhibit.

Booth No. 8

The National Drug Company Philadelphia, Pennsylvania

The National Drug Company, pioneer in the clinical application of resin therapy, will feature RESION, an intestinal absorbent; RESINAT, a polyamine exchange resin for the treatment of peptic ulcer; and NATRINAL, a cation exchange resin for the control of edema. Trained representatives will be in attendance to discuss our resin preparations and other specialties: ACTH, Amniven, AVC Improved, Benat, DTP Vaccine, Natolone, as well as any of the National's vast array of pharmaceutical and biological products.

Booth No. 9

Lederle Laboratories Division AMERICAN CYANAMID COMPANY New York, New York

You are cordially invited to visit our exhibit in space No. 9 where you will find representatives who are prepared to give you the latest information on LEDERLE products.

Booth No. 10

Richmond Surgical Supply Company Richmond, Virginia

Richmond Surgical Supply Company cordially invites you to visit our booths—numbers 10 and 41—where the most recent developments in Surgical Equipment and Supplies will be displayed.

Booth No. 11

Abbott Laboratories Baltimore, Maryland

Booth No. 12
G. W. Carnrick Company
Newark, New Jersey

Featured at the GWC technical exhibit will be ANDRODIOL (Methylandro-stenediol) the new tissue-building steroid providing the protein-anabolic action of androgens with minimal virilization. It provides a new approach to the problem of tissue building in nutritional abnormalities in all patients . . . men, women, children. For the debilitated, weight-deficient patient whose diet is balanced and of adequate caloric and vitamin value.

Booth No. 13
Beech-Nut Packing Company
Canajoharie, New York

Booth No. 14
Wm. P. Poythress & Company, Incorporated
Richmond, Virginia

Physicians attending the 1952 annual meeting of the Medical Society of Virginia are cordially invited to visit the Poythress exhibit. It will feature the well established specialty preparations, SOLFOTON, TROCINATE, and PANALGESIC. Information, literature and professional samples on all Poythress products will be made available by Mr. A. Carter Jones. Your interest will be appreciated.

Booth No. 15
Holland-Rantos Company, Incorporated
New York, New York

JELLY WITH DIAPHRAGM—or jelly-alone?—is a timely question which physicians interested in Medical Contraception are invited to talk over with Holland-Rantos representatives at the convention.

KOROMEX Diaphragms, Jelly and Cream—separately and in sets—will be displayed for your inspection. For patients' safety and confidence, the Koromex Diaphragm and Koromex Jelly or Cream means *consistently effective protection*.

Ask for latest clinical data on NYLMERATE Jelly and Solution—trichomonicidal, fungicidal and bactericidal.

Booth No. 16
Mead Johnson & Company
Evansville, Indiana

Mead Johnson & Company will feature Lactum and Dalactum, convenient formulas of evaporated milk containing Dextri-Maltose; three water-soluble vitamin preparations, Poly-Vi-Sol, Tri-Vi-Sol and Ce-Vi-Sol; Fer-In-Sol, a palatable, highly concentrated solution of ferrous sulfate. Also Mulcin, a pleasingly flavored vitamin emulsion, for teaspoonful dosage, as well as four Pabulum cereals, including Barley and Rice.

Representatives in attendance will be glad to furnish information regarding the above products.

Booth No. 17
Philip Morris & Company
New York, New York

Philip Morris and Company will show the results of research on the irritant effects of cigarette smoke. These results show conclusively that Philip Morris are less irritating than other cigarettes. An interesting demonstration will be made on smokers at the exhibit which will show the difference in cigarettes.

Booth No. 18
M & R Laboratories
Columbus, Ohio

Representatives for SIMILAC and CEREVIM will be most happy to discuss with members of the Society the merits and use of our products in the field of infant and child nutrition.

Booth No. 19
Doho Chemical Corporation
New York, New York

Doho Chemical Corporation is pleased to exhibit AURALGAN, the ear medication for the relief of pain in Otitis Media and removal of Cerumen; RHINALGAN, the nasal decongestant which is free from systemic or circulatory effect and equally safe to use on infants as well as the aged; and the NEW OTOSMOSAN, the effective, non-toxic ear medication which is Fungicidal and Bactericidal (gram negative-gram positive) in the suppurative and aural dermatomycotic ears. Mallon Chemical Corporation, subsidiary of the Doho Chemical Corporation, is also featuring RECTALGAN, the liquid topical anesthesia for relief of pain and discomforture in hemorrhoids, pruritus and perineal suturing.

Booth No. 20
A. H. Robins Company, Incorporated
Richmond, Virginia

The A. H. Robins Company is featuring PHENAPHEN and PHENAPHEN WITH CODEINE, "the complete analgesics"; and ROBITUSSIN, antitussive-expectorant for rational cough therapy. Robins' Medical Service Representatives welcome the privilege of discussing with physicians attending the Assembly these and other products in the company's line of prescription specialties.

Booth No. 21
Powers & Anderson, Incorporated
Richmond, Virginia

The management of Powers and Anderson will exhibit the latest in technical equipment and supplies at the annual meeting of The Medical Society of Virginia. Many new and interesting items have been introduced in our field during the past year and will be seen at our booth during the exhibit hours.

Booth No. 22
Eli Lilly and Company
 Indianapolis, Indiana

Your Lilly medical service representative cordially invites you to visit the Lilly exhibit located in space 22. Featured will be a demonstration of functional packaging as an aid to medical practice. Modern manufacturing departments will be illustrated. Literature on new therapeutic developments will be available.

Booth No. 23
U. S. Vitamin Corporation
 New York, New York

See the "oil-in-water" demonstration of liposoluble vitamins A and D made completely water soluble—a vitamin technical achievement originated and developed by the U. S. Vitamin Research Laboratories.

Three pharmaceutical firsts . . . Vi-Syneral Vitamin Drops—multivitamins in drops solution; Vi-Syneral Injectable—multivitamin parenteral solution and now Vi-Aqua Syrup—aqueous multivitamins in candy-like syrup . . . for more rapid absorption, greater therapeutic activity, shorter treatment time.

We cordially invite you to our booth for detailed literature and professional samples.

Booth No. 24
A. S. Aloe Company
 Washington, D. C.

The A. S. Aloe Company will feature their new Steeline Treatment Furniture which has every modern feature ever made. Many of its important features are exclusive and are not to be found in other makes. No comparable equipment can match its superb operating advantages, style, and ultimate economy. Also featured will be the latest and most up-to-date x-ray and physical therapy equipment as well as new items of interest to every surgeon and physician attending the meeting.

Booth No. 25
The Borden Company
 New York, New York

Spend a few pleasant minutes with Borden's at Booth No. 25 and refresh your memory on our Prescription Products. Meet BREMIL, conforming to the pattern of human milk; MULL-SOY, a liquid hypoallergenic soy food for your milk-allergic patients; DRYCO, with its high-protein, low-fat content for formula flexibility; BIOLAC, a liquid modified milk for infant feeding; BETA LACTOSE, for carbohydrate supplementation; KLIM powdered whole milk; and the powdered Protein and Lactic Acid Milks for special infant feeding cases.

Booth No. 26
VanPelt & Brown, Incorporated
 Richmond, Virginia

Physicians are invited to view a display of VanPelt & Brown specialties. Featured are: Pyraldine—an antihistaminic cough expectorant containing dihydro-

codeinone; Pyr-Aspro—an analgesic combination with added antihistaminic and natural belladonna alkaloids; Vifo-Iron—a hematinic tablet containing atoxic, efficiently absorbed ferrous gluconate and B-complex vitamins including folic and crystalline vitamin B₁₂; and Barbidonna—a sedative and antispasmodic combination containing phenobarbital and natural belladonna alkaloids in balanced proportions, available in tablet and elixir forms. Representatives will gladly answer all questions regarding these and other VB products and will fill requests for samples and literature.

Booth No. 27
Ciba Pharmaceutical Products, Incorporated
 Summit, New Jersey

The Ciba exhibit will feature APRESOLINE, a phthalazine derivative which is an orally effective and relatively safe therapy in hypertension of diverse etiology.

Representatives in attendance will be very glad to discuss and to provide literature on this and other Ciba products.

Booth No. 28
Ayerst, McKenna & Harrison
 New York, New York

Your Ayerst medical representative cordially invites you to visit booth number 28 where "Premarin" and "Mediatric" will be featured. Descriptive literature is available, and representatives will be pleased to discuss specific application of these and other products in our line of prescription specialties. Descriptive literature, reprints and samples may be had at the booth.

Booth No. 29
The Upjohn Company
 Philadelphia, Pennsylvania

Booth No. 30
Physicians Products Company, Incorporated
 Petersburg, Virginia

The Physicians Products Company's exhibit will feature a display of their professional preparations which will be promoted during the winter season. Several of the Company's representatives will be on hand to greet the physicians in attendance and all members of The Medical Society of Virginia, their wives, and guests are cordially invited to stop by the display and visit with the representatives in attendance.

Booth No. 31
Peoples Drug Stores, Incorporated
 Washington, D. C.

Members of The Medical Society of Virginia and others in attendance are cordially invited to visit our booth number 31.

Representatives of the company will be on hand to make you welcome.

Booth No. 32
Sharp & Dohme

Philadelphia, Pennsylvania

Research data relative to the potentiating effect of the anti-biotics, bacitracin and tyrothricin, are featured in the Sharp & Dohme booth. The synergistic effect of penicillin in conjunction with the sulfonamides and clinical data on the use of vitamin B₁₂ are also of major interest. Our representatives will welcome your visit.

Booth No. 33
Parke, Davis & Company
Detroit, Michigan

Medical Service Members of our Staff will be in attendance at our exhibit for consultation and discussion of various products of particular interest to members of the Society. Important specialties, such as Chloromycetin, Penicillin S-R, Benadryl, Vitamins, Oxycel, Thrombin Topical, etc., will be featured. You are cordially invited to visit our exhibit.

Booth No. 34
Ortho Pharmaceutical Corporation
Raritan, New Jersey

ORTHO cordially invites you to visit their exhibit at Booth 34. The Ortho display will feature PRECEPTIN® vaginal gel, their new product for conception control designed for use without a vaginal diaphragm. Preceptin vaginal gel has achieved an outstanding record of clinical effectiveness and has been widely acclaimed by the medical profession. Your inquiries on Preceptin vaginal gel are invited.

Booth No. 35
Valentine Company, Incorporated
Richmond, Virginia

Booth No. 36
Sandoz Pharmaceuticals
New York, New York

Physicians attending The Medical Society of Virginia convention are cordially invited to visit the Sandoz Pharmaceuticals display which will feature the following:

CAFERGOT—the first effective oral preparation for the treatment of migraine and related headaches.

BELLERGAL—a time tested preparation for use in functional disorders.

HYDERGINE—a new approach and new product for hypertension and peripheral vascular diseases.

A new handbook listing our products will be available and representatives in attendance will gladly answer any question about these and other Sandoz products.

Booth No. 37
G. D. Searle & Company
Chicago, Illinois

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

Featured will be Banthine, the true anticholinergic drug for the treatment of peptic ulcers; Dramamine, for the prevention and active treatment of motion sickness; and Alidase, Searle brand of hyaluronidate which permits subcutaneous feedings at intravenous speed.

Other time proven products of Searle Research on which information may be obtained are Searle Aminophyllin in all dosage forms, Metamucil, Ketochol, Floraquin, Kiophyllin, Diodoquin, Pavatrine, and Pavatrine with Phenobarbital.

Booth No. 38
Schering Corporation
Bloomfield, New Jersey

Booth No. 39
Burroughs Wellcome & Co. (U.S.A.) Inc.
Tuckahoe, New York

'AEROSPORIN'® SULFATE
POLYMYXIN B SULFATE

A New Antibiotic

- Effective against *Pseudomonas aeruginosa*
- Destroys most other gram-negative bacilli



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'POLYSPORIN'®
POLYMYXIN B - BACITRACIN
OINTMENT

- **Broad Spectrum** for all pyogenic infections including external ear infections, styes, acne, furuncles.
- **Rarely Sensitizes-Resistance Rarely Develops**

Booth No. 40
Algro Corporation
Richmond, Virginia

Booth No. 41
Richmond Surgical Supply Company
Richmond, Virginia

See Booth No. 10.

Booth No. 42
W. B. Saunders Company
Philadelphia, Pennsylvania

Shaffer & Chapman's Correlative Cardiology, Beckman's Pharmacology in Clinical Practice, and Lewis's Practical Dermatology are three of the new books available for your inspection at the Saunders Booth. Other recent publications that you will be interested in seeing: Bland's Clinical Use of Fluid and Electrolyte; Advances in Medicine and Surgery from the University of Pennsylvania; Alvarez on the Neuroses; Lahey Clinic Surgical Practice; Cecil's Specialties in General Practice; and many others.

Booth No. 43

Winthrop-Stearns Incorporated

New York, New York

Winthrop-Stearns invite you to visit booth number 43, where representatives will be on hand to discuss the latest pharmaceutical preparations made by this firm. Featured will be TELAPAQUE, the new, highly effective and well tolerated oral cholecystopaque medium. Gives denser, clear cut pictures of the gallbladder and, in a substantial number of cases, also permits visualization of the biliary ducts; MILIBIS SUPPOSITORIES, new, highly effective specific against trichomonal, monilial, bacterial (nongonococcal) and mixed vaginitis; NEO-SYNEPHRINE THENFADIL, nasal solution, potent vasoconstrictor with antihistaminic, for common cold, allergic rhinitis, acute and chronic sinusitis.

Booth No. 44

Kloman Instrument Company

Alexandria, Virginia

Booth No. 45

Vaisey-Bristol Shoe Company, Incorporated

Rochester, N. Y.

Representatives will explain the diagnostic value of Jumping Jack shoes and the criteria for determining whether the early walking child is strengthening his foot by proper foot function or is possibly damaging it by walking poorly.

Jumping Jack shoes are not "corrective" shoes but representatives are equipped to discuss corrective wedging which may be installed in the shoes by prescription. Of especial interest is the Sincock system of determining

the precise amount of correction needed to rectify a faulty gait. Many doctors have lauded Dr. Sincock's empirical method as "genius".

Booth No. 46

E. R. Squibb & Sons

New York, New York

Booth No. 47

Tablerock Laboratories, Incorporated

Greenville, South Carolina

Booth No. 49

Abbott Pharmaco Incorporated

Newport News, Virginia

We are looking forward to the privilege of exhibiting our ethical specialties at the 1952 convention.

Our representatives will welcome the opportunity to acquaint you with Lactol, our new and original acid douche; ABBORATE, our oxidizing douche powder, and our VITAMIN-MINERAL tabs for prenatal and multi-purpose use.

Booth No. 51

Camel Cigarettes

New York, New York

CAMEL cigarettes will mark your initials on an attractive plastic cigarette case filled with a package of those mild, flavorful CAMELS. This exhibit features a display of some of the tobaccos used in blending this famous cigarette which leads all other brands by many billions.

EDITORIAL

The Story of a Successful Drug—Then and Now

MAN is constantly looking for "cures". Through the ages he has found great numbers of them that have satisfied for a time but they have not lasted. Some cures consist of mystic rites, pilgrimages, etc. Not infrequently such "rites" are combined with or augmented by drugs and internal remedies, and then it is difficult to evaluate one or the other. Those used in ancient Persia, Egypt, or Greece have disappeared so completely that we do not even know the names of the drugs. Dioscorides, who in Nero's time compiled the first *materia medica*, listed 600 remedies, the composition of many of which is unknown today.

The same vagueness pertains to drugs used in the Middle Ages. They were prepared from animal or vegetable matter and much emphasis was placed on the association of unsavoriness, and disagreeableness of origin and preparation. When gathered in a graveyard, the material had great value. In some cases it was necessary to do the "field work" on the dark of the moon in order to get the full efficiency of the drug. The mandragora owed its popularity to the fact that its root was forked and therefore resembled a man. To pull up a mandrake was thought to be fatal and Shakespeare has a line (Romeo and Juliet, iv, 3) "Shrieks like mandrakes, torn out of the earth." Because a lion is strong his glands were preferred to those of a sheep. To what the long popularity of the mythical unicorn was due and where the pharmacist obtained the substance is not clear.

Whether the medicine were vegetable or mineral was a matter of prime importance over a long period of years. Those who believed in herbs would have nothing to do with mineral medicine and vice versa. The herb doctors cured syphilis with guaiac, the others with mercury; and so it was with the other diseases. To bleed or not to bleed was a question of belief rather than knowledge. Poor diagnosis as well as the presence of self limited diseases added to the confusion. It was not until the time of Louis (1787-1822) that there was any serious attempt to evaluate the results of treatment.

What a change the twentieth century has brought. At the turn of the century we had only two or three specific remedies: quinine for malaria, mercury and iodide for syphilis, ergot for uterine contraction, and digitalis for edema. These we inherited from "folk medicine" and all our pharmacologists had to do was to devise methods of standardization and purification. As a matter of fact, they purified all the usefulness out of ergot. In the past forty years we have scrapped our therapeutic armamentarium of Arabian polypharmacy and we have in its place potent hormones, antibiotics, and the products of chemotherapy.

Paul Ehrlich (1845-1915) was the pioneer in chemotherapy. Even when a medical student he was interested in aniline dyes and discovered that proteins differed in their staining qualities—in fact it was frequently the only apparent difference. This led to his devising a differential stain for leucocytes. He also noticed that bacteria differed in their staining qualities. This gave him the idea that it might be possible to find a chemical with an especial affinity for the invading organism and little or none for the host, and to hang a side chain of arsenic to this chemical that would kill the germ and not harm the host. His 606th trial produced *arsphenamine* or *salvarsan*.

Similarly the "sulfa" drugs were the result of conjugating a derivative of quinine with sulfanilimide. Sulfanilamide was first produced in 1908 by Gelmo whose in-

terest in the chemical was from the point of view of the dye industry. In 1917 it was noted that some of these combinations would kill bacteria in a test tube and in 1932 *sulfamidochrysoidine* was patented under the name of prontosil with the claim that it would kill bacteria in animals. The same year Gerhard Domagk, Director of the Institute of Experimental Pathology of the I. G. Farben Industrie, found that prontosil protected mice against fatal doses of streptococci.

It sounds quite simple; all a chemotherapist has to do is to pick out the chemical radicals whose combination should have the qualities he is looking for. Next he must synthesize the substance he has in mind, and it has to stand the *in vitro* and the *in vivo* tests before it is subjected to the all important clinical test. If these tests are favorable the drug is put on the market. The test of time that follows may sustain the clinical test, but not infrequently it fails to do so.

The making of a successful drug has long ceased to be a one man's job. It is the work of groups or teams who have access to well equipped laboratories in which to make the drug and to test it in test tube and animal. The clinical tests are entrusted to teaching hospitals in several different localities. The average doctor who is finally privileged to use the drug often gets impatient at what he considers unnecessary delays, but he does not realize how much hard, scientific work goes into a modern worth-while drug.

Right now a new drug which has gone through a course similar to the "sulfa" group has reached the clinical test stage. *Isonicotinic acid hydrazide* was first made in 1912 by two German students as a part of their work for a Ph. D. degree. These men, Hans Meyer and Joseph Mally, published their results in *Monatschifte der Chemie* (33:393, 1912); the Deutsche University at Prague conferred upon them its degree, and the new chemical, seemingly having fulfilled its destiny, sank into oblivion. In 1942 the Hoffman LaRoche Company and E. R. Squibb & Sons, independently of one another, became interested in the compound as a remedy for tuberculosis. *Nydrazid*, as it is better known by the laity, is now in the midst of the clinical test stage. The results so far are very promising, but tuberculosis has had so many "sure cures" in the past that it behooves one to withhold judgment until all the evidence is in. In any event it is the most recent example of the great care the chemotherapists take to find safe and worth-while remedies.

Unjust Criticisms of the Rural Practitioner

ELSEWHERE in this issue of the VIRGINIA MEDICAL MONTHLY there appears an article entitled "*Unjust Criticisms of the Rural Practitioner*". This article has been submitted by the recently appointed director of the General Practice Department of the University of Tennessee in Memphis. Prior to accepting this position Dr. Williamson was engaged in rural practice in the northwest.

Organized medicine took cognizance of the need for improved medical care in rural areas some seven or eight years ago. At first a rural health committee was organized and this has grown into the Council on Rural Health. This Council is chairmaned by Dr. F. S. Crockett and is accountable directly to the Board of Trustees of the AMA. As a result of the interest of Dr. Crockett and his excellent council a very positive program for improving medical care in rural areas has been evolved.

The American Medical Association through the Council on Rural Health has sponsored six annual conferences on rural health. The last of these was held in Denver and the next is scheduled to be held in Roanoke, Virginia, in February, 1953. Through the medium of these conferences programs have been evolved and perhaps of more

immediate importance, rural people through their farm organizations have been made aware of the interest of organized medicine in improving their medical care and therefore a very excellent job of public relations has been accomplished through this conference. Many of the points made by Dr. Williamson have been discussed at length in these conferences.

In the article referred to in the initial paragraph of this editorial the author calls attention in a straightforward manner to four of the criticisms most commonly leveled at the rural practitioner. It is natural that they would be heard in certain areas more frequently than in others but they are the criticisms most often expressed. He has gone further and endeavored to answer these criticisms in an equally straightforward manner.

That these criticisms would be admitted to by all rural practitioners or further that their solution would result in completely satisfactory medical care for all people residing in rural areas would be utopian. Nevertheless it is through such frank discussion that all of us are brought together in a better understanding of the problems and as a result solutions may more frequently be found.

JOHN O. BOYD, JR., M.D.

Essay Contest

THE Association of American Physicians and Surgeons, an organization which represents physicians exclusively in medical economics, public relations and legislation, in 1946, decided to do something about saving the nation's high school students from Socialism.

Stimulating the Association to sponsor an annual national Essay Contest for high school students on the subject "Why The Private Practice Of Medicine Furnishes This Country With The Finest Medical Care", were the results of the 1944 Purdue University poll of high school students which disclosed that 77% of them favored the "government providing medical services for all" (socialized medicine).

Each year for the past six years, the Association has offered cash prizes of \$1,000, first; \$500, second; \$100, third and \$25.00 each for fourth, fifth and sixth for the six best Essays written in the nation.

The effectiveness of the Essay Contest is beginning to prove itself. The 1950 Purdue poll of high school students revealed that the percentage favoring socialized medicine had been reduced to 55% from the high of 80% in 1948.

The AAPS Essay Contest is a dynamic force for good in the battle against socialized medicine and Socialism. It is obvious that the work of enlightening the adult citizenry will have been in vain if we lose the minds of our young students to Socialism.

If we fail to correct this misconception of the country's youth, in a few years these future young voters will be able to vote the country into socialized medicine and Socialism.

The Essay Contest has earned increasing success in each of its six years of sponsorship and splendid cooperation is given to it by county and state medical societies throughout the country.

The 1952 \$1,000 first prize winning Essay, written by Bill Carr of Gulfport, Mississippi, appears in abstract form in the Miscellaneous Department of this Journal.

JAMES P. KING, M.D.

NEWS

Make Your Plans to Attend

The 105th meeting of The Medical Society of Virginia in Richmond, September 28, 29, 30 and October 1, under the presidency of Dr. John T. T. Hundley of Lynchburg. Headquarters will be The Jefferson Hotel, where the various sessions will be held.

The program appearing in this issue of the MONTHLY shows a number of subjects to attract the interest of all, as well as several symposia, a couple of Roundtable Discussions and, on the last morning, a Clinicopathological Conference. Guest speakers will be Dr. Hugh R. Butt of Rochester, Minnesota, and Dr. Gordon Douglas of New York City.

The Exhibits—scientific and technical—have an educational value and should not be overlooked. They are well worthwhile.

A cocktail party and banquet on Tuesday evening will be a time for social gatherings and a pleasant intermission from the scientific sessions.

With the number of hotels in Richmond, there will be ample room for all, so make your plans to be among those present.

Norfolk County Medical Society.

At the annual meeting of the Society in June, Dr. George A. Duncan became president. The other officers (all of Norfolk) to serve with him are Dr. Donald T. Faulkner as recording secretary; Dr. A. Randolph Garnett as corresponding secretary; and Dr. James T. May as treasurer.

Dr. Lippard to Go to Yale.

Dr. Vernon W. Lippard, dean of the department of medicine, University of Virginia, will become dean of the Medical School at Yale University on January 1. He will succeed Dr. C. N. Hugh Long. Dr. Lippard has been dean of the Medical Department at the University since 1949. Prior to this, he was associate dean of the College of Physicians and Surgeons at Columbia University from 1939 to 1946, and dean of the School of Medicine at Louisiana State University from 1946 to 1949. He is a native of Marlboro, Massachusetts, and a graduate in medicine of the Yale School of Medicine in 1929.

"New Vinton Bridge Honors 'Country Doctor' "

Was the caption accompanying a picture in the Roanoke World News of June 15, which showed the new \$70,000 bridge over the railroad in Vinton. This was dedicated on June 22 as the Garthright Memorial Bridge, honoring the late Dr. Robert Hunter Garthright who practiced medicine in Vinton for 55 years. During his practice, he officiated at the birth of 1939 babies. Many of these as grandparents and parents attended the exercises. A daughter, Miss Edith Garthright, and a son, Edward F. Garthright, joined State officials in paying this tribute to their father.

Two More Blantons in Richmond.

Drs. Wyndham B. and H. Wallace Blanton announce the association in the practice of medicine of Dr. Wyndham B. Blanton, Jr. and Dr. Frank McFaden Blanton. They have offices at 828 West Franklin Street, Richmond.

American College of Chest Physicians.

A total of 932 physicians and guests attended the 18th Annual Meeting of the College at the Congress Hotel, Chicago, June 5-8, 1952. The roster included members from 44 states, Hawaii, Canada and 17 other countries. A scientific program dealing with various aspects of heart and lung disease was presented by leading physicians in the specialty.

Among the highlights of the meeting were the awarding of the College Medal to Dr. Chevalier Jackson, Philadelphia, for meritorious achievement in the specialty of diseases of the chest, and the presentation of the essay award of \$250 to Dr. C. Walton Lillehei, Department of Surgery, University of Minnesota Medical School, for his essay "Experimental Bacterial Endocarditis and Proliferative Glomerulonephritis."

Mr. Murray Kornfeld, Executive Director of the organization, was presented with a scroll in recognition of 25 years of service. This was presented by Dr. Jay Arthur Myers, Editor-in-Chief of Diseases of the Chest, as well as a past president of the College. Mr. Kornfeld was responsible for the organization of the American College of Chest Physicians and its journal, and has served as Managing Editor of the journal since its inception.

Officers of the College elected to serve for 1952-53 are: President, Dr. Andrew L. Banyai, Milwaukee; President-Elect, Dr. Alvis E. Greer, Houston, Texas; Vice-Presidents, Drs. William A. Hudson, Detroit, and James H. Stygall, Indianapolis; Treasurer, Dr. Minas Joannides, Chicago; Assistant Treasurer, Dr. Charles K. Petter, Waukegan, Illinois; Chairman of the Board of Regents, Dr. Donald R. McKay, Buffalo; and Historian, Dr. Carl C. Aven, Atlanta.

Dr. Dean B. Cole, Richmond, is a member of the Board of Regents, and Dr. Charles L. Harrell, Norfolk, is a member of the Board of Governors.

The next Meeting will be held at the Hotel New Yorker, New York City, May 28-31, 1953.

International Fertility Association Formed.

On October 18, 1951, in Rio de Janeiro, Brazil, delegates from twelve nations founded this Association. Its aims are:

1. To study the problems of Fertility and Sterility in their broad implications.
2. To stimulate scientific investigation and social awareness in the field of Fertility and Sterility.
3. To standardize and orient nomenclature, terminology, tests and evaluation of diagnostic methods and therapy, throughout the world.
4. To hold international congresses in the specialty in different parts of the world. These congresses are to be regularly scheduled.

The First World Congress on Fertility and Sterility sponsored by the new society will be held in conjunction with the American Society for the Study of Sterility in New York City in May, 1953.

For further information, write to Dr. Abner I. Weisman, Associate Secretary-General, 1160 Fifth Avenue, New York, N. Y.

Dr. E. G. Gill,

Roanoke, by invitation addressed the Tidewater Ophthalmological Society in Norfolk on May 22nd. His subject was "Recent Advances in Cataract Surgery" and the paper was illustrated with lantern slides and motion pictures.

Dr. and Mrs. H. Page Mauck,

Richmond, left about the middle of June to spend some time in England, where Dr. Mauck attended the joint meeting of the British and American Orthopedic Associations.

The American Board of Obstetrics and Gynecology

Announces the election of the following offices at its recent annual meeting, held in Chicago, in June:

President, Dr. Walter T. Dannreuther, New York City; Vice-Presidents, Drs. F. Bayard Carter, Durham, N. C. and Robert A. Kimbrough, Jr., Philadelphia; Secretary-Treasurer, Dr. Robert L. Faulkner, Cleveland; Assistant Secretary, Dr. Lawrence M. Randall, Rochester, Minn.

The next scheduled examination (Part I), written examination and review of case histories, for all candidates will be held in various cities of the United States, Canada, and military centers outside the continental United States, on Friday, 6 February 1953. Application for examination or reexamination, as well as request for resubmission of case reports, must be made to the Secretary prior to 1 November 1952. Address Robert L. Faulkner, M.D., Secretary, 2105 Adelbert Road, Cleveland 6, Ohio.

American Public Health Association.

The 80th annual meeting of the Association and the annual meetings of 38 related organizations will be held in the Public Auditorium, Cleveland, Ohio, October 20-24. More than 5,000 professional public health workers from all parts of the free world will attend. The program will include papers on a wide variety of subjects.

The Lasker Awards for 1952 for outstanding contributions in medical research and public health administration will be presented on Tuesday evening, October 21. The Sedgwick Memorial Medal, given for distinguished service in public health, will be awarded at the Banquet Session on Thursday evening, October 23rd.

Further information may be obtained from Dr. Reginald M. Atwater, executive secretary, at 1790 Broadway, New York City.

Full Time Medical Directors

To handle medical civil defense problems arising in each regional geographical area are needed. The job pays \$10,800 a year and the states included in Region 2 are Pennsylvania, Maryland, Virginia, West Virginia and North Carolina. Any one in these states interested should write H. R. Battley, Southern States Building, 7th and Main Streets, Richmond 19, Virginia for requirements and details.

Tele-Clinic.

The fourth edition of Tele-Clinic features the highlights of the proceedings of the fourth annual scientific assembly of the American Academy of General Practice held in Atlantic City in March. This motion picture was developed by Wyeth Incorporated, Philadelphia, well known pharmaceutical house. It is a 35-minute, 16 mm black and white sound film. Fifty-five prints have been made and it is available to medical societies, hospitals, nurse groups and other medical organizations by Wyeth.

Virginia Obstetrical and Gynecological Society.

The Spring Travel Meeting of this Society was a success in every way. Clinics, ward walks, and papers were had at Bellevue, the New York Lying-In Hospital, and the Sloane Hospital, and members had the opportunity to meet with a number of celebrities in that section. Social activities were also enjoyed.

Those who made up the 1952 Travel Club were: Drs. Thomas G. Bell, Staunton; Milton H. Bland, William E. Byrd, Randolph Garnett, John R. Knight, Paige E. Thornhill, Norfolk; Chester D. Bradley, Newport News; A. L. Carson, Jr., Gwen Hudson, Joseph C. Parker, Spotswood Robins, Eric C. Schelin, Henry C. Spalding, Meyer Vitsky, Hudsonall Ware, Jr., Richmond; John F. Gayle, Hampton; James M. Habel, Suffolk; M. H. McClintic, Walter L. McMann, Danville; John M. Nokes, Charlottesville; Harrison Picot, Preston Titus, Alexandria; George Speck, Arlington; Joseph E. Warren, Lynchburg. Guests were Drs. Wilbur J. Baggs, Newport News; Isa Grant, Richmond; Benjamin Inloes, Langley Field; and Lester Wilson, Charlottesville.

Correction in Dates of Postgraduate Course.

On page 414 of the July MONTHLY, a typographical error was made in giving dates for the Clinical Session (Postgraduate) of the VIRGINIA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY. These sessions are to be in Charlottesville, November 18, 19, 20 and 21, 1952.

38th Parallel Medical Society.

Col. Walter M. Bartlett, Decatur, Georgia, Medical Consultant at Eighth Army Headquarters, has been elected president of this Society, and Capt.

Inger Schulstad, a woman doctor with the Norwegian Surgical Hospital, secretary.

The unique society is composed of medical personnel in I Corps and adjacent IX Corps areas. It meets twice a month on the 38th parallel at the 8055th MASH to hear experts, often from Japan or Department of Army, speak on medical subjects.

Big Gifts to American Medical Education Foundation.

Two major gifts to the Foundation, totalling more than \$200,000 a year, have been made by the Chicago Medical Society and the Illinois State Medical Society.

The American Medical Education Foundation was established in February 1951 as part of organized medicine's fight against socialization, to raise funds to support medical schools and make unnecessary their subsidy and control by the federal government. Its accumulations, which are income tax-deductible, are turned over to the National Fund for Medical Education, which in turn distributes them to the nation's medical schools.

Already close to \$1,000,000 has been collected and the fund-raising drive is still gathering impetus.

The 1951 Inventory of Professional Registered Nurses

Is now off the press and copies are available at \$1.00, from American Nurses' Association, 2 Park Avenue, New York City 16. This report presents findings from the second inventory conducted by the American Nurses' Association, the purpose of which was to determine the number and location of professional registered nurses, both active and inactive, in the United States and the Territories of Alaska, Hawaii and Puerto Rico. Supplementary data was obtained on marital status, age, sex, and type of position.

Medical Resident Wanted.

Beginning July 1, fully approved 165-bed general hospital has opening for Medical Resident. Stipend \$150 a month and maintenance. Address "Medical Director", C. & O. Hospital, Huntington, West Virginia. (Adv.)

Wanted—

Experienced Superintendent of Nurses and Laboratory Technician for a small hospital. A satisfactory salary and maintenance. Lebanon General Hospital, Lebanon, Virginia. (Adv.)

OBITUARIES

Dr. William Willcox Dunn,

Retired physician of Richmond, died June 18, following an illness of two years. He was eighty-one years of age and a graduate of the College of Physicians and Surgeons of New York in 1894, following which he studied in Vienna and London. He located in Richmond in 1897 and for some years taught at the former University College of Medicine. He was for sometime on the board of directors of the Retreat for the Sick. He was a member of The Medical Society of Virginia of which he was also a member of its Fifty Year Club. His wife and two sons survive him.

Dr. Tremaine Ernst Armstrong,

For some years a prominent specialist of Hopewell, died July 8, following a long illness. He was seventy-five years of age and a graduate in medicine from the former College of Physicians and Surgeons of Baltimore in 1899. He joined The Medical Society of Virginia the same year and was a member of its Fifty Year Club. He saw service in World War I. Shortly thereafter he located in Hopewell as a physician for the Tubize Corporation. His wife and a daughter survive him.

Dr. James Breckenridge Dalton,

Well known orthopedic surgeon of Richmond, died July 14 at the age of 66, after a long illness. He was a native of Carroll County and studied medicine at the former University College of Medicine, Richmond, from which he graduated in 1910. He later took special orthopedic work in New York. He was a member of several medical organizations and had been a member of The Medical Society of Virginia since 1917. His wife and a son, Dr. James B. Dalton, Jr., survive him.

Dr. Wade Hampton Venable,

Chatham, a retired medical missionary of the Southern Presbyterian Church, died July the 9th. He was 85 years of age and a graduate in medicine from the University of Virginia in 1889. After retirement as a missionary in 1927, he served on the staff of a tuberculosis sanatorium and later became resident director of a school in Chatham which position he held until he had to retire in 1935 because of his health.

Dr. George Dewey Pettit,

Chilhowie, died unexpectedly at his home on June 20. He was a native of Spartanburg, S. C., and 54 years of age. He received his M. D. degree from the Medical College of Virginia in 1929 and located in Chilhowie in 1930 since which time he had practiced there. His wife and a sister survive him.

BE IT RESOLVED that The Smyth County Medical Society wishes to express to the family of Dr. George D. Pettit its deepest sympathy in their great loss.

That The Medical Society, Chilhowie, and Smyth County have lost a valuable and sincere citizen who has spent many years in the service of his community.

That a copy of this resolution be made a part of the records of this Society, and that a copy be sent to The Medical Society of Virginia for publication in the Medical Monthly.

THE SMYTH COUNTY MEDICAL SOCIETY

Dr. Luther Clyde Ferebee,

Former coroner of Norfolk County and a former member of the General Assembly of Virginia, died on June the 4th after a heart attack. He was sixty-seven years of age and a graduate of the Medical College of Virginia in 1910. He was formerly a member of The Medical Society of Virginia. Two daughters and a son survive him.

Dr. Olin West,

Nashville, Tenn., died June 20, at the age of 77. He was for many years Secretary and General Manager of the American Medical Association, a position he held until April 1946 when he retired on account of his health and returned to Nashville to live. He will be remembered not only as an excellent official of the Association but also for his geniality and understanding of the problems of the individual doctor.

Dr. Robert Klaus Waller,

Assistant professor of legal medicine and an instructor in clinical pathology at Medical College of Virginia from which he graduated in 1949, died July 14 at a Maryland hospital, from injuries received the preceding day in an automobile accident. He was born in Vienna, Austria but came to the United States in 1939. He was deputy State medical examiner and was the recipient of a grant from the Markle Foundation for special training as a serologist. His wife and two children survive him.

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25 CENTS A COPY

GUEST EDITORIAL

An Invitation

THE writer is honored to be asked for an editorial for the VIRGINIA MEDICAL MONTHLY. He is also happy to be privileged to select his own title. It may be an unusual one but it is more than just an act of inviting; it is an earnest appeal to all members of The Medical Society of Virginia to attend its annual meeting this Fall. It means more than that; it is a hope that you will bring your wives or other members of your family. Their presence is always an asset to the meetings. Why not ask some good, ethical and worthy colleague, who is not a member of our society, to come to the scientific sessions? Not only should he be greatly benefited but it might be a means of his becoming a member and both he and the society would benefit. This meeting will differ considerably from former meetings. It will be earlier than usual, September 28th, 29th, 30th, and October 1st, and at the Jefferson Hotel in Richmond. There is something about the Jefferson which few hotels enjoy. You will like it. Too, there will be more and better space for scientific and commercial exhibits. Richmond is always a lovely city. The many places to go and things to do will make your stay a happy one. The meeting itself should be unusually good. There will be visiting speakers, entertainment and banquets. It is hoped that the various groups will have all of their members there, particularly for their luncheons. The stronger these groups are, the stronger the parent organization will be and the better the meeting will be.

The program committee has worked hard to make the scientific program interesting, constructive and complete. All of us need the social contacts, rest and diversion that such a well rounded meeting will give. Too, our patients will be pleased that their doctors are trying to keep abreast of current developments in diagnosis and therapy by attending our state medical meeting. The physician's primary obligation is to his patients. To them, time, patience and undivided attention must be given ungrudgingly, time to explore the diagnostic and therapeutic possibilities of his case thoroughly, patience to explain the general nature of his disorder and its treatment, and attention which arises from a genuine interest in a fellow human being and his problems. We owe it to our patients to try to keep our skill at its peak. This can only be done by reading, by post-graduate work and particularly by attending medical meetings where there can be a general exchange of views between doctors, experts in the fields of medical practice, teaching and in public relations. To the patient, each doctor is really the medical profession, and the most valuable relations man in the profession is the individual doctor whose genuine affection for, and service to, his patients makes them loyal allies and supporters. Surely, we should try in every way possible to qualify ourselves to do justice to the important positions we hold in our community life.

Furthermore, the physician of today must be able to think logically and intelligently in many fields. This is especially true in medical education.

The medical school must be kept free from political control, with its potentiality for lowering educational standards and restricting freedom of scientific investigation.

To accomplish these things, members of the profession must work together in their medical societies. All members must be active to keep them strong and democratic. Our county societies have, in many cases, become too weak to wield the influence they should. Too many of their members have become indifferent and do not attend their local meetings. These societies must be revitalized. Local physicians must be made to realize that medical progress will cease unless they work together. Wherever medical societies are weak or absent there exists low standards of medical care. A strong medical profession which stands and works as a unit is the only way to keep the politicians from taking over. All doctors must take an interest in their local medical society. It is the product of its members. If you do not like what your society is doing, do not stand back and criticize, get in and work and show how to improve things. The same things which hold good for the local society hold for the state and national organizations. You are not only invited but you are urged to come to your state meeting and take an active part in its activities. You can help too, by urging your colleagues to join the local and state societies and to take active part in them by expressing themselves and working for their views. It is healthy to have members of varying opinions as long as the policies of the majority are pursued. To be democratic, societies must be governed by the majority. If you do not agree with the majority, get in and fight for the changes in those activities and policies which you desire. There is no excuse for the all too frequent allegation that the policies of these societies are dictated by a few.

All of them are governed by elected officials, who are subject to the will of the majority. If the members do not express their will, they have only themselves to blame. Once policy is determined, it is the duty of all members to work for it and interpret it to their colleagues and patients. You are urged to help strengthen your local society. Attend its meetings and see for yourself the best way to do this. You are invited and urged to support your state society in like manner. We must not stop there, however, we must all support the American Medical Association. We must not only pay our dues, we must educate the uninformed and try to convert the ungrateful. We must show that we are grateful for what it has done for us, as practicing physicians. The mere fact that we are able to practice medicine in high grade hospitals with the protection of certified therapeutic agents and apparatus, that we have high grade medical educations, and are practicing in a free state, untrammelled by political regimentation, we owe the American Medical Association. Can we do less than support our local societies thereby making the state society strong? The strong state society will make for a strong American Medical Association and greater protection and service to the profession. It has led the way. We must keep it going. Let's start now by attending our state meeting this Fall. This is your invitation.

JAMES L. HAMNER, M.D.

THE INDICATIONS FOR TONSILLECTOMY AND ADENOIDECTOMY IN CHILDREN*

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The subject of tonsillectomy and adenoidectomy, particularly in children, continues to be an active one. Frequent articles in the health columns, lay and scientific publications substantiate this statement. My intention is to consider briefly the subject from the viewpoint of an otolaryngologist.

The development of successful antibiotics has, perhaps, resulted in a decrease in the number of necessary operations of this type, but has not altered the indications for surgery; and therein lies our interest. We cannot be too categorical about the fate of this lymphoid tissue, because we know so little of its function. I refer to the possible duties of this tissue in the developing immunity in the child of five to six years of age; its part, positive or negative, in the concept of focal sepsis; and to other complexities relative to lymphoid tissue in general. Again, recall that the precise nature of the mechanism and cause of such diseases as rheumatic fever, nephritis, arthritis, and one of the commoner pharyngeal maladies—non-bacterial exudative tonsillitis and pharyngitis—are far from being clear. With this in mind, then, it becomes apparent that the indications for lymphoid tissue surgery cannot be considered unequivocally as a set group of rules, but each question must be considered individually. The possible indications for tonsillectomy, adenoidectomy, and the combined operations will be considered in the following paragraphs.

Tonsillectomy (usually combined with adenoidectomy):

The occurrence of repeated attacks of acute tonsillitis (over two in a period of weeks), with local and systemic manifestations, is always the principal indication for removal of the tonsils. Such attacks may begin as early as one and a half to two years of age. While it is the opinion of some physicians that the tonsils should not be disturbed under any circumstances prior to the age of five years, when repeated, acute episodes occur, it is my belief that

the child would be better with the tonsils removed, regardless of the age. Efforts should always be made to tide the child over until older, at which time the procedure may not be necessary but, if so, the ultimate result may be expected to be superior. However, to be too extreme in this attitude may cause the child much discomfort and may unduly endanger it to the complications of such repeated attacks of acute disease. Also, relieving the concern of the parents will indirectly have a beneficial effect upon the well-being of the child.

Peritonsillar abscess is rare in children, but is a difficult problem when it does occur. Following abatement of the disease, tonsillectomy is advisable.

Persistent cervical adenitis with attacks of threatened or actual suppuration, necessitating antibiotics, may require tonsillectomy and adenoidectomy. We assume here that the adenoid tissue is also contributing to the infection, in addition to the tonsils. Prior to considering the adenitis as an indication, sinusitis, dermatitis, dental disease, or some systemic disease must be eliminated as the cause.

One sometimes encounters a child who is not "doing well"; there is a certain dullness in the behavior with lack of energy, as compared to the companions, which cannot be explained by the pediatrician. If the tonsil history is negative and the tonsils are benign in appearance, then they are ignored; but if the tonsil status is doubtful (chronic tonsillitis), then one may occasionally see much improvement mentally and physically in such an individual, following tonsillectomy and adenoidectomy. There may be disagreements with this observation, but such benefits have been observed too often to be ignored.

Every one dealing with the problem of tonsils and adenoids has seen hypertrophy of these structures to such a degree that it interferes with respiration, rest, speech, and ingestion of food, particularly if even the slightest upper respiratory infection is present. This hypertrophy is sufficient to justify tonsillectomy and adenoidectomy.

The part that the tonsils play in the concept of focal sepsis is a controversial one, concerning which

*Presented at the meeting of the Virginia Pediatric Society in Williamsburg, Va., March 1, 1952, as part of a symposium on this subject.

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opinions have swung from the affirmative, now, to extremely negative views. The extremely negative attitude is probably not entirely justified, but there is neither space nor time here to present the various views on the subject. It will suffice to say here that no tonsils should be removed for prophylactic reasons, and that in the case of rheumatic fever, nephritis, and kidney sepsis, the decision for tonsillectomy should be based on the criteria for children in general. Should the operation become necessary when such systemic disease is present, then it should be performed during a quiescent period under antibiotic protection. I cannot help mentioning, though, that if one converses with a number of otolaryngologists and other specialists dealing with children's diseases, he will often hear of various diseases improving, following tonsillectomy and adenoidectomy. The number raises the question in one's mind as to the applicability of the explanation by coincidence in these cases.

The accuracy of determining disease in a tonsil by its appearance has been discredited. The history of tonsillitis, as previously described, is of paramount importance.

Otitis media and defective hearing are not influenced by removal of the tonsils, even though diseased. In the case of the adenoid, one may expect more beneficial effects following its removal.

Repeated respiratory infections, such as coryzas, laryngitis, bronchitis, and those manifestations attributable to an allergy cannot be considered as indications for tonsillectomy and adenoidectomy. Some investigators believe that removal of the tonsils may actually dispose the children to more frequent attacks of these diseases. However, in these studies, the factors of age, environment, and severity have not been considered. It is possible that the severity of the attack may be reduced in the individual.

Miscellaneous conditions that one may encounter as suggested indications for tonsillectomy are: dental malocclusion, facial physiognomy, foul breath, snoring, and the carrier state. Except for the latter, little consideration is given such proposed reasons.

Adenoidectomy (may be performed without tonsillectomy):

The therapeutic indications for surgical removal of the adenoid tissue are better defined than those for removing the tonsils. The age of the patient requires less consideration, for adenoidectomy may

be performed at earlier ages with little question as to the immediate and ultimate benefit to the patient. The indications depend basically upon the degree of obstruction and size of the mass.

The role of the hypertrophied adenoid and tonsil, with respect to interfering with respiration, rest, etc., has already been mentioned as an indication for removal. Cervical adenitis and chronic disease, resulting in general debilitation, have also been considered. The combined procedure of adenotonsillectomy is the one of choice in these cases.

Acute adenoiditis (nasopharyngitis), non-bacterial or bacterial in origin, occurs more often in children than usually recognized. This infection may be present without obvious concurrent tonsillitis or sinusitis. It is manifested by mouth-breathing, pooling of secretions in the nasal cavities, otalgia, dysphagia, cervical adenitis, and elevation of temperature. The occurrence of repeated attacks, as in tonsillitis, is an indication for adenoidectomy.

Frequent attacks of suppurative, non-suppurative, or secretory otitis media will be diminished, in the majority of cases, following removal of the infected and obstructing adenoid tissue. A draining ear (otitis media) which has resisted all treatment over a period of three to four weeks will often dry up promptly after adenoidectomy. Defective hearing of the non-perceptive type without specific cause, whether persistent or intermittent, should have the benefit of adenoidectomy.

A suppurative ethmomaxillary sinusitis in a child may be improved by better aeration and drainage, following the removal of an obstructing adenoid mass.

Retropharyngeal abscess or cellulitis, though uncommon, is an indication for adenoidectomy following resolution, as a result of incision and drainage and/or treatment with antibiotics.

Although we have been interested mainly in the indications for removal of the tissue of Waldeyer's ring, other related and current matters should be mentioned.

Irradiation by radium or x-ray of the lymphoid tissue of the pharynx and nasopharynx is an acceptable adjunct to surgical removal. Its use is not a substitute for surgery, nor should it be considered at any time as a routine procedure. The object in this form of therapy is to reduce the activity and size of the lymphoid tissue remaining

after surgery, which has pathologic potentialities, due to position, size, and infection. Apparently, benefit is being obtained by irradiation therapy, in the reduction of aural infections and hearing deficiencies.

The time for surgery in relation to seasons and epidemics will be considered briefly. As far as the season of the year is concerned, I believe it makes little difference whether the surgery is performed in the summer or winter. It is more difficult to plan a time when the patient will be free of an acute upper respiratory infection in the winter months than at other times; but as this type of surgery is elective, this will not be of too much import. During the period of epidemics of diseases which children are prone to incur, no elective surgery of any type should be performed. The tonsillectomy-polio-myelitis problem is receiving much attention in the literature at the present time. Efforts are being made to determine the incidence of relationship between adenotonsillectomized patients and poliomyelitis. The statistical reports presented in the past few years have been conflicting. There seems to be a definite relationship between the recently operated patient and the bulbar type of poliomyelitis, but even this is questioned by some. In any event, all agree that the operation should not be performed during an epidemic, and that it is advisable to delay the procedure when there is an increased incidence of the disease in a community. Also, one should not operate upon a patient who has been exposed to

even a questionable, sporadic case. When in doubt, any elective operative procedure upon the respiratory tract should be postponed. Information from the State Board of Health in regard to epidemics and anticipated increases in diseases is obtainable, and will serve as a useful guide in planning operative schedules.

Finally, the question of adenoidectomy and tonsillectomy in children with cleft palates should receive attention. Experience reveals that a high percentage of children with this deformity have a hearing loss and pathological changes in the middle ear. It would seem then that adenoidectomy should be considered early in childhood, prior to or at the time of repair of the cleft, in an effort to minimize the chances for the additional disabilities, defective hearing and otitis media.

SUMMARY

The indications for tonsillectomy and adenoidectomy have been presented. Tonsillectomy is indicated because of repeated, acute infections, manifested by local and systemic reactions. Preferably, the procedure should be combined with adenoidectomy and performed after the age of five years, but many exceptions to this rule must be made. Adenoidectomy may be performed at earlier ages, and is indicated because of infection *per se*, plus obstructive symptoms and signs relative to the ears, nose, and sinuses.

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SALICYLATE INTOXICATION*

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The purpose of this note is to report a case of salicylate poisoning with emphasis on the scanty morphological findings resulting, and on the small quantity of drug which may bring about the death of an infant. Pathological reports of such cases of fatal salicylate consumption are not voluminous. One of the best descriptions is that of Gross and Greenberg¹. Other articles dealing with this subject may be found in the bibliography²⁻¹⁰.

CASE REPORT

An 18 month old white male infant was admitted to the Medical College of Virginia Hospital on March 1, 1951, after ingesting approximately 20 grains of acetylsalicylic acid the previous evening. The child showed no signs until six hours after ingestion, when he became dyspneic and fretful. He was lethargic and dyspneic on admission, later becoming irrational and comatose. He expired the afternoon of the same day in spite of active and vigorous therapy. The blood pH was 7.3, and the ante mortem blood salicylate level was 75-80 mgms. p.c. The post mortem level was 45 mgms. p.c. The child's temperature was 103 degrees most of the time and his respirations as many as 80 per minute. The peripheral blood contained 14 gms. of hemoglobin, R.B.C. 4.4 million and W.B.C. 26,400 with 34% polymorphs and 58% lymphocytes.

Permission for autopsy was obtained to include only the chest and abdomen. The heart weighed 64 gms. (normal 52 gms.) and all chambers were dilated. The epicardium showed pin point hemorrhages, as did the endocardium. The lungs were hemorrhagic and there was diminished crepitation throughout. One area of consolidation was found in the left upper lobe which suggested an aspiration pneumonia. The mucosa of the stomach was hyperemic and there were many small, superficial ulcerations (Fig. 1). Peyer's patches were prominent in the jejunum, ileum, and small hemorrhages were seen in them. The spleen weighed 24 gms. (normal 30 gms.) and the follicles were very prominent.

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Throughout the lymph glands, there was hyperplasia of the germinal centers with necrosis (Fig. 2).

Pathological Diagnosis:

Salicylate poisoning, postmortem salicylate level 45 mgms. p.c.

Lymphoid hyperplasia with necrosis of germinal centers (lymph nodes, spleen, intestine).

Pulmonary hemorrhages.

Perivascular necrosis, heart.

Early ulcerations (chemical) of gastric mucosa.

DISCUSSION

The gross and microscopic findings of deaths due to salicylates are not dramatic. The picture is further complicated by cases that are reported with varying other serious illnesses.

The heart apparently is seldom affected, but epicardial, myocardial and endocardial hemorrhages, and even a few cases of myocarditis are reported. The lungs are frequently the site of edema, hemorrhage, and congestion. The kidney tubules may show cloudy swelling, and even degeneration and necrosis of the tubular epithelium. The glomeruli may be enlarged and congested. The liver is frequently spared, but focal areas of necrosis, congestion and fatty infiltra-

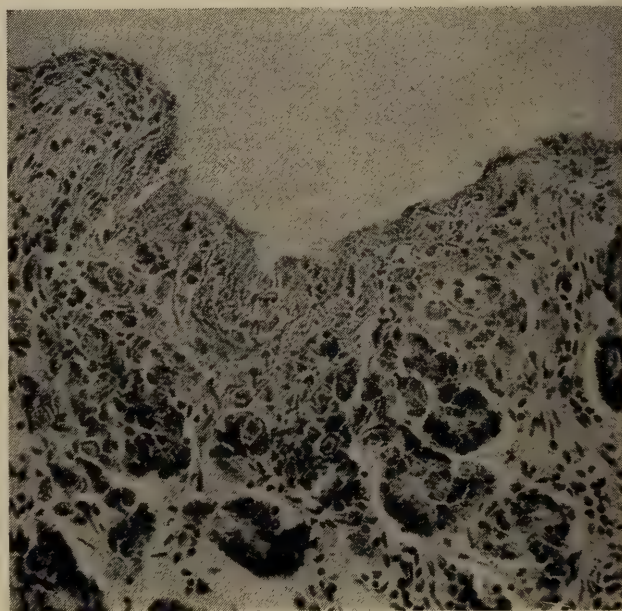


Fig. 1.—Stomach showing superficial erosion of the mucosa.

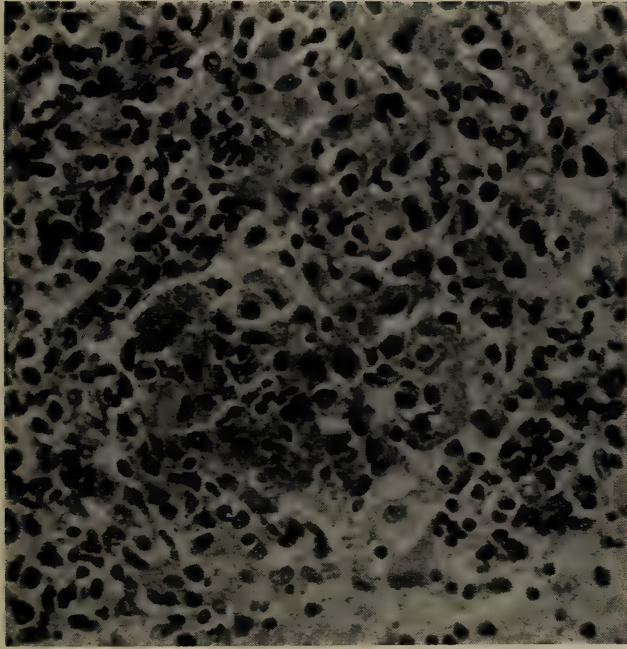


Fig. 2.—Spleen showing large blast cells and necrosis of a Malpighian corpuscle.

tion may be seen. The stomach and small intestine, as would be expected, frequently are edematous and hyperemic with small ulcerations, especially in the stomach. The spleen and lymph nodes are frequently enlarged with hyperplasia and necrosis of the germinal centers.

The brain may be congested and edematous with many petechial hemorrhages over the surfaces. Larger hemorrhages are seldom seen. Hyperplasia of the thymus and bone marrow is infrequently reported.

Hemorrhagic manifestations are among the commonest changes seen. Any given case may show few to many organs involved with the above listed pathological changes.

Occasionally, what appears to be an infinitesimal amount of salicylate may prove fatal. One report deals with the death of an infant occurring after swallowing two dessert spoonfuls of a solution containing 1500 grains of aspirin in a pint of water. Patients with bronchial asthma have been known to die after ingestion of five grains of aspirin. Cases

of this nature are most probably examples of hypersensitivity, where the salicylate takes on the role of a haptene. One of the latest journals cited two fatal cases from the ingestion of aspirin. One was an infant who died within 14 hours after the ingestion of 2.56 grams. The second case was an adult male who ingested 5 to 6.1 grams and died within a period of 3 hours.

SUMMARY

A fatal case of salicylate intoxication resulting from the ingestion of approximately 20 grains of aspirin in an 18 month old infant is reported. Attention is called to the extremely low dosage that may prove fatal to such an infant. The pathological findings included a generalized hemorrhagic tendency, superficial ulcerations of the gastric mucosa, and necrosis of the germinal centers of the lymph glands.

Salicylate determinations were made by Dr. Sidney Kay, Toxicologist to the State of Virginia.

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NONOPERATIVE TREATMENT OF PERFORATED PEPTIC ULCER

Report of 20 Cases†*

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The approved method of treatment of perforated peptic ulcer is its operative closure, and it is agreed upon generally that the simplest measure which accomplishes this is the best one to employ. The opening is closed with a suture which may be reinforced by omentum, and the excess amount of fluid is removed from the peritoneal cavity. Excision of the ulcer or biopsy adds nothing to the treatment of the perforation and may do harm. The question of cancer is hardly reason for routine tissue studies under the circumstances. In the exceptional case, a sub-total gastrectomy may be considered when there is adequate indication for it other than the perforation itself and when conditions are favorable.

There has been striking improvement in the results of the operative treatment, both in mortality and morbidity, during the past ten years. The surgery, aside from certain technical advancements, has not changed fundamentally. It seems logical, then, to believe that other measures have been taken to account for this improvement. These include improved anesthesia, more ready use of continuous gastric suction, balancing of parenteral feedings, and the regular employment of antibacterial agents. If, in some other way, the escape of fluid through the perforation could be prevented to allow spontaneous sealing of the ulcer by peritoneum or omentum, the operation would not seem necessary except to remove excess fluid already spilled into the peritoneal cavity.

The use of the antibiotics has had a profound effect upon the management of surgical diseases, particularly those of an infective nature. Prior to their use emergent abdominal surgery was necessary to prevent the serious complications of uncontrolled infection. Drains as outlets were employed freely. The common cause of death from perforated peptic ulcer before chemotherapy was peritonitis. The antibiotics un-

questionably have played a major role in reducing the general operative mortality from 24 per cent during the decade 1930-40¹ to less than 10 per cent today. They were responsible for the discontinuance of the routine use of drains. The improvements in anesthesia, surgical technic, and parenteral feedings have decreased the number of postoperative complications and deaths from causes other than peritonitis. Any less radical treatment of the perforation which proved as effective as its operative closure would have obvious advantages.

In April, 1949, a plan for the treatment of perforated peptic ulcer without operation was begun at the Veterans Administration Hospital, Swannanoa, North Carolina. Of 25 patients admitted since that date, 5 had surgical closure because of a lack of uniform feeling among the surgeons to accept so radical a change in treatment. The series consists of 20 patients, 18 of whom were suitable for operation. The value of the nonoperative management cannot be gleaned from so few a number of cases. However, the results in the individual case have been gratifying and are in keeping with those recently reported by English surgeons^{2,3} who have had appreciably more experience with the method.

COMPARISON OF OPERATIVE AND NONOPERATIVE METHODS OF TREATMENT

An analysis of the results of nonoperative treatment of perforated peptic ulcer should be made on the cases suitable for surgery if one wishes to compare them with the results obtained in the operated group. To include patients unfit for surgery by reason of shock or associated disease would be misleading. These patients are judged not able to survive an operation and can be treated only by conservative means. The mortality in this series of 20 patients is 10 per cent, but of the 18 suitable for operation it is 0 per cent, and of the two not suitable, it is 100 per cent.

In the appraisal, one must include the early and late complications of the two methods of treatment. The operative closure of the ulcer carries with it

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those complications attendant upon any major abdominal surgical procedure. Complications incident to the perforation itself ostensibly would be increased were all patients treated conservatively. This is true particularly with regards to formation of subphrenic and intraperitoneal abscesses in patients with considerable amounts of free fluid in the peritoneal cavity. However, it appears that adhesions might be of a less serious nature.

Finally, one must consider the effects which an error in diagnosis might have in either method of treatment. As many abdomens are entered as are treated conservatively on a mistaken diagnosis, so that errors in judgment are comparable. In the operated group the error is always recognized and this method of treatment has the real advantage in those cases in which immediate surgery is life-saving, but it is of distinct harm in those of a purely medical nature. The error in diagnosis might not be recognized always in the nonoperated group. The treatment more often will be applicable and of no great consequence when the patient does well.

DIAGNOSIS

The importance of making a correct diagnosis becomes apparent. In most instances it is not difficult to do from the history and physical findings. Characteristically there is sudden onset of severe sustained pain beginning in the upper abdomen and in an individual who may or may not have had symptoms of ulcer. The patient is able to state the exact hour of the perforation. Since the pain is aggravated by motion, he is inclined to lie still. Occasionally there is pain of lesser degree in one or both shoulders which is accentuated by breathing. It is referred from the diaphragm and is of confirmatory value. The upper abdomen in the young and healthy individual is rigid. Shock is seldom present when the patient first comes to the physician's attention.

The presence of free air under the diaphragm almost always means that the stomach or duodenum has perforated. When the diagnosis is suspected, rarely is it due to other causes. One can often demonstrate this free air on finding decreased or obliteration of liver dullness to percussion. This sign is not always present. In a study of 49 patients with perforated ulcers, proved at operation (unpublished data), x-rays were made for pneumoperitoneum be-

fore surgery on 12 and free air was demonstrated in 4 (one-third of the cases). In the present series of 20 unoperated patients, pneumoperitoneum was found in 12. These patients were not always subjected to x-ray examination immediately upon arrival to the hospital. Treatment was started and the x-ray was made under optimum conditions, sometimes after a period of 12 hours.

Hesitancy in accepting elective nonoperative treatment of perforated peptic ulcer will come mainly through errors in diagnosis. The forceful effect of this mistake came to us on one occasion.

E. L., a white man, 25 years of age, who had a perforated peptic ulcer operated upon three years previously, was referred to the Veterans Hospital for treatment presumably of another perforation of 12 hours duration. He had been treated with penicillin and continuous gastric suction for several hours in a local hospital. He had considerable abdominal pain and was somewhat under the influence of narcotics so that a good history was not obtained upon admission. The abdomen was level and rigid with no audible peristalsis. The temperature was 100, blood pressure 160/100, and pulse 100. His general condition appeared satisfactory. X-ray examination (Fig. 1) showed no free air beneath the diaphragm, but there were distended loops of jejunum in a step-ladder arrangement with evidence of fluid levels suggesting the presence of intestinal obstruction. Its significance was not appreciated at the time.

The diagnosis of perforated peptic ulcer was accepted as correct and conservative treatment was continued. Unfortunately he was not under close observation during the early hours and, when seen 10 hours later, his condition had deteriorated to that of an almost moribund state. The blood pressure was 86/60, pulse 152, and respiration 30. The abdomen was distended, tympanitic, silent and very tender. Plasma and blood transfusions were started and he was operated upon 13 hours after admission. There was volvulus of the mesentery of the small intestines due to adhesions which produced obstruction with gangrene of the terminal 6 feet of the ileum. The involved ileum was resected, following which recovery was uneventful.

In this case there should have been doubt of the correctness of the diagnosis which would have become evident after a few hours of close observation.

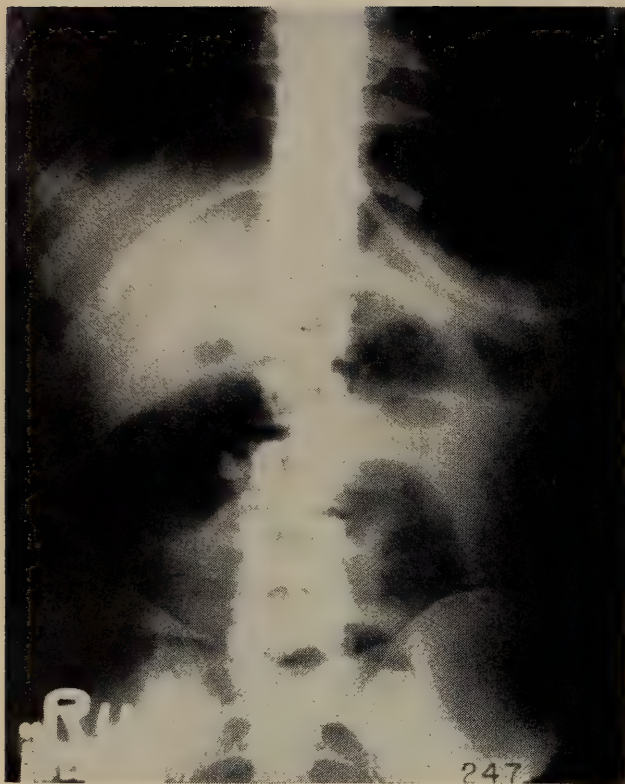


Fig. 1.—Roentgenogram of the abdomen of the patient treated conservatively at the onset for perforated peptic ulcer. The distended loops of the jejunum immediately suggest the presence of intestinal obstruction which was found at operation. In cases in which the correct diagnosis is at all doubtful, an x-ray of the abdomen, as well as one of the chest with the patient in upright position to demonstrate free air under the diaphragm, should be made.

TREATMENT

In the nonoperative management, if one hopes to obtain best results the treatment must include all that is possible to promote the prompt sealing of the perforation, the early healing of the ulcer and reabsorption of free peritoneal fluid, control of bacterial peritonitis and prevention of abscess formation.

Gastric suction is started after emptying the stomach of all contents. It is usually continued for 2 to 4 days. Continuous suction may not be practical and is not always effective when carried out by those not experienced in its use. Aspiration at regular intervals as recommended by Taylor² may be a more certain means of keeping the stomach empty.

The treatment of peritonitis is instituted. The escape of gastroduodenal contents through the perforation produces contamination of the peritoneal cavity and bacterial peritonitis will develop if the natural defenses of the body are unable to prevent it. The antibiotics which are effective against the bacteria most likely to cause this peritonitis are employed. We have used penicillin and streptomycin

together, continuing treatment until all signs and symptoms have subsided and the temperature has come to normal for 2 or 3 days. Parenteral feeding and fluid balance ordinarily is not a primary concern. At the time of the perforation, most patients are in a state of fairly good nutrition and the period of feeding solely by the parenteral route will be brief. Seldom is more than three thousand cc. of fluid administered daily even though fluids are lost by gastric suction. Patients recover better when overhydration is avoided. The fluids are calculated to supply glucose, protein fractions, saline and vitamins sufficient for immediate needs and to maintain an electrolyte balance. They are gradually decreased in amount as the patient begins to take feeding orally on a progressive Sippy regimen.

The patient is made as comfortable as possible by administering narcotics and barbiturates. Atropine is given during the immediate postperforation period in the belief that it will hasten the healing of the ulcer when the stomach is kept empty.

Constant vigilance is essential during the first few hours in order to become immediately aware of any change in signs and symptoms which may reveal a mistaken diagnosis. A surgical condition in this way can be recognized early. Should the response to treatment in the first few hours be unfavorable, the operation may yet be carried out and the risk to the patient usually will not have been appreciably increased. The blood pressure, pulse, and temperature are taken at frequent intervals. The patient with perforated ulcer begins to get some relief of pain within a few hours (sometimes almost immediately upon emptying the stomach). The abdomen becomes more relaxed and he often falls asleep. The blood pressure and pulse become stabilized. The temperature may rise moderately without alarm within the first 48 hours.

RESULTS OF TREATMENT

Pertinent data concerning each of the patients treated for perforation without operation are shown in Tables 1 and 2. Seventeen of the 18 suitable for operation recovered uneventfully. Perhaps Case 1 (J.B.) should not be included because he fell into the group through error in diagnosis, although treatment proved to be in the right direction. Eleven days after admission an operation was performed for subsiding cholecystitis, but, instead, a healing perforated

duodenal ulcer was found. There were two patients with perforated gastric ulcers. One of these, Case 5 (H.N.), had a subtotal gastrectomy later because of persistence of the ulcer in which carcinoma could not be ruled out. The other, Case 13 (E.E.), is presented in detail because it brings out the situation

the hospital at 9:00 P.M., 4 hours after his ulcer perforated. Noteworthy, his pain was worse at the onset in the left upper quadrant. He seemed to do well under conservative treatment until about 4:00 A.M. (11 hours after perforation) when he went into shock and required plasma, blood and oxygen

CASES SUITABLE FOR SURGERY

Patient	Age Color Sex	Onset to Treatment (hours)	Pneumo- Peritoneum	Duration of Fever (days)	Highest Temper- ature	Location of Ulcer (X-Ray)	Gastric Acidity
1. JB	55CM	48	*	5	101	Not seen	High
2. GO	35WM	5	No	3	100.4	Duodenum	High
3. CM	30WM	14½	No	4	100.2	Not seen	*
4. SE	25WM	7	Yes	3	100.6	*	*
5. HN	58WM	12	No	4	101.2	Gastric	Normal
6. ES	26WM	8	Yes	4	101	*	*
7. JM	29WM	9	Yes	5	101	Duodenum	Normal
8. JR	28WM	6½	No	4	101.4	Duodenum	*
9. WC	39WM	5½	Yes	3	102	Duodenum	*
10. CG	35CM	4½	Yes	10	100.8	Duodenum	High
11. PH	33WM	4	Yes	6	100.6	Duodenum	High
12. JH	24WM	3	No	4	102	Duodenum	High
13. EE	49WM	4	Yes	4	101	Gastric	Normal
14. LH	26WM	7	No	3	102	Duodenum	High
15. CJ	55CM	48	Yes	6	99.2	Duodenum	High
16. JP	33WM	4	Yes	7	99.8	*	High
17. JJ	28WM	17	Yes	4	103	Duodenum	High
18. AJ	45WM	1	No.	7	102	Not seen	High

*No examination made.

Table 1.—Cases suitable for surgery.

Evidence of perforated peptic ulcer was fairly conclusive in each case except No. 18. This patient, A. J., gave a reliable history of peptic ulcer. The acute illness was characteristic of a perforated ulcer. He responded well to conservative treatment and was completely relieved of pain subsequently on an ulcer regimen. The diagnosis of perforation was based on an ulcer history, a clinical picture of perforation, good response to treatment of the perforation and the ulcer, high gastric acids and negative findings for other diseases which might produce an illness similar to it (x-rays of chest and gallbladder, electrocardiograms, and serum amylase determinations).

CASES UNSUITABLE FOR SURGERY

Patient	Age Color Sex	Onset to Treatment (hours)	Pneumo- Peritoneum	Duration of Fever (Days)	Highest Temper- ature	Reason for Unsuitability	Other Complications	Course
1. CM	54WM	Unknown	Yes	1	102(r)	Peripheral vascular collapse	Hemorrhage	Death 26 hrs. after admission
2. RG	53WM	19	Yes	0	99.2(r)	Congestive heart failure	Hemorrhage Jaundice	Death 4 days after perforation

Table 2.—Cases unsuitable for surgery.

for which early operation is necessary. As a result of an excessive amount of free intraperitoneal fluid, he developed bilateral subphrenic abscesses. An operation was indicated within 24 to 48 hours after admission to remove this fluid.

E.E., a 49 year old white man, was admitted to

to recover. His convalescence thereafter appeared satisfactory until the 8th day when he began to run an afternoon fever. An x-ray had disclosed free air with fluid levels under both leaves of the diaphragm (Fig. 2). Gastric acidity was normal. On the 13th day a barium meal showed considerable dis-

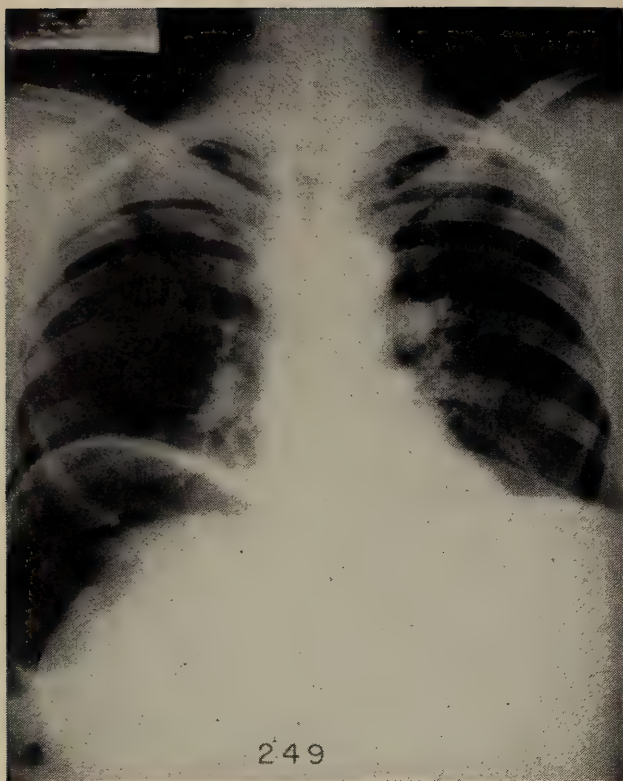


Fig. 2.—Roentgenogram of the chest of the one patient among the eighteen suitable for operation and treated by conservative means who developed a complication—bilateral subphrenic abscesses. The x-ray finding of free air with fluid levels under the diaphragm is prima facie evidence for the need of an early operation to remove this fluid.

tortion of the stomach with forking of the stream of barium in the body, suggesting a fistulous opening. The patient became increasingly toxic. On the 17th day the abdomen was entered. The upper abdominal cavity was almost obliterated by plastic fibrinous adhesions about pockets containing serous and milky fluid. A culture of this fluid contained predominantly *Escherichia coli*. Exploration was not attempted except to expose a portion of the anterior wall of the stomach which was thickened and edematous. The adhesions were separated along the anterior borders of both lobes of the liver and large subphrenic abscesses, the contents of which were considerably altered by antibiotics, were entered and drained below the ribs on either side. Drainage from the right ceased in 2 weeks. Drainage from the left was profuse in the beginning and contained gastric fluid. It ceased when the drain was removed 37 days after operation. Three months following perforation a gastroscopy disclosed constriction of the midbody with edema and some erosion of the mucous membrane. The wall was stiffened and the gastroscope could not be passed beyond this point. Gastroscopy

was repeated one month later and showed a segmental thickening and reddening of the stomach wall at the midbody on the lesser curvature only. The patient has done well on a medical program and it is reasonable to believe that the perforation occurred in a benign gastric ulcer.

In Case 15 (C.J.), a subtotal gastrectomy was done 11 weeks after perforation for partial duodenal obstruction due to ulcer scarring. As in Case 5 (H.N.), few adhesions were encountered in the upper abdomen.

The other patients in the series have continued to do well on medical regimens since discharge from the hospital.

For comparison, a group of ten consecutive, operated patients were studied. All of these ulcers except one were duodenal. There were no deaths and one early complication, that of wound infection. One of these patients, (G.W.), was operated for appendicitis. On recognizing the error, the right lower quadrant incision was closed and the upper abdomen was entered only to find the perforation sealed over and requiring no operative attention. He recovered after having received 3500 c.c. of whole blood.

Convalescence was definitely prolonged in the operated patient. Some indication of this is reflected in the average duration of fever for the two groups. For the operated, it was 8.8 days. For the conservatively treated, it was 4.2 days.

Before the patient is discharged a barium meal is given to locate the site of the ulcer if possible. Subsequent management will depend somewhat upon whether the lesion is gastric or duodenal. A gastric analysis is also advisable. At the conclusion of conservative treatment, should there still be some uncertainty of the diagnosis, these studies when positive, with negative findings in the other organs, will confirm it. A glance at the temperature graph is helpful. In each instance in this series there has been some elevation of the body temperature.

ADVANTAGES OF THE NONOPERATIVE METHOD

Conservative treatment can be begun by the family physician immediately upon making the diagnosis and before the patient is moved to the hospital. It requires no especial skill, equipment, or help. The lapse of time between perforation and treatment will be cut considerably in most cases. Should the diagnosis be in error, no harm will have been done and

it will not materially affect the attending surgeon's chances of recognizing the true nature of the disease. It is the only method of treating the patient who is obviously too ill for surgery.

A major abdominal operation with the complications attendant upon it is avoided. Peritoneal adhesions of a nature to produce later complication, as intestinal obstruction, will be fewer.

The general welfare of the patient is served better. He is relatively comfortable within a few hours and convalescence is shortened. Upon discharge he is physically and psychically in a better shape to resume his customary place in society.

REASONS FOR FAILURE OF NONOPERATIVE TREATMENT

Apparently, there are three reasons why nonoperative treatment will fail in the group of patients found suitable on examination for surgery. First, when the diagnosis is in error and the condition is one in which immediate surgery is lifesaving. This is no fault of the treatment itself, but means that one must be reasonably sure of the diagnosis. He should operate when the differential diagnosis lies between a perforated ulcer and one of the true surgical emergencies. Second, when the perforation has allowed a large amount of gastroduodenal contents to enter the peritoneal cavity so that the antibiotics cannot control the bacterial sepsis. This will occur more often with gastric ulcers. A third reason for failure of treatment has been brought forth by Taylor and Stead^{2,3}. In a few of their patients, the perforations have failed to close, allowing air to enter the peritoneal cavity in spite of the gastric suction. These patients were thought to be air-swallowers. When there is undue abdominal distention, an x-ray made each day will disclose the increasing pneumoperitoneum.

It is the vague sense of uneasiness which the surgeon has in starting conservative treatment that will play a strong part in his decision to follow the accepted procedure and operate. Should the patient, who is acutely ill from the onset, not seem to do well, this uneasiness might well change to apprehension.

Nonoperative treatment will have to be tried extensively and proved in value to be equal to, if not better than, immediate operation before it will be accepted generally. Although no definite conclusions can be drawn from the experiences encountered in this small series, it appears that there can be a further reduction in the morbidity and mortality of perforated peptic ulcer by the judicious use of conservative treatment. This may come chiefly in the group of patients who, though suitable for operation are, nevertheless, increased surgical risks because of impending shock or associated disease and who are unable to withstand the additional insult of a major operation.

SUMMARY

Experience is given in the nonoperative treatment of eighteen patients with perforated peptic ulcers who were suitable for surgery. All made uneventful recoveries except one who required drainage of bilateral subphrenic abscesses. The treatment, its advantages, and the selection of the patient who will require an early operation are discussed.

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ADDENDUM—

Since the preparation of this paper there have been eight patients treated for perforated peptic ulcer. Seven were suitable for operation. One was unsuitable because of peripheral vascular collapse. This patient also had bleeding from the ulcer, bearing out the grave prognosis which exists when hemorrhage occurs with perforation. Of the seven suitable for operation, one was operated because of a mistaken diagnosis of acute appendicitis. The remaining six were treated nonoperatively and recovered without incident.

TREATMENT OF BRONCHIAL ASTHMA WITH A NEW NATURAL STEROID COMPLEX

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The recent advances in therapy of allergic disease with ACTH and cortisone have stimulated a quest for newer compounds which might have the effectiveness of these agents but without the attendant profound dangers. A natural steroid complex (Marisone)* has been investigated by the authors for its possible use in severe and uncontrolled allergic conditions. This preliminary report concerns the results of treating seven chronic asthmatic patients with Marisone.

Material. The preparation that was used in these patients is an equine steroid complex obtained from a pregnant mare's urine extract. It contains the dry sterol conjugates that are separated from the estrogen conjugates present in the starting material. The product is said to contain considerable amounts of the phenolic, acidic and neutral sterols of the original material which are present as water soluble conjugates. In laboratory animals this material has been reported to have some actions similar to but less than cortisone^{2,3}.

Methods. A group of patients with chronic uncontrolled moderate to severe bronchial asthma were selected for study. Of this group there were four males and three females; ages varying from 34 to 74. Six patients had been studied thoroughly from a medical and allergic point of view. In one patient (Case No. 7) no allergy tests were performed. Previous treatment had resulted in only partial or no relief from symptoms. Two of the patients required frequent hospitalization for status asthmaticus.

A period of observation varying from 6 weeks to 14 months prior to the use of Marisone was made in order to establish a base line from which to evaluate the effectiveness of the material being studied.

The case histories were obtained from patients in private practice and where possible the following laboratory procedures were performed at repeated intervals: blood counts and urinalysis; total circulating eosinophil counts; vital capacity determinations;

blood pressure readings; pulse rates; weights; auscultations of the chest; reference to daily diary records kept by most patients; and the use of placebos where indicated.

Vital capacity determinations were made with a McKesson apparatus. The highest vital capacity obtained after two or more trials was recorded as the actual vital capacity reading.

The usual dose of Marisone was 1.0 to 2.0 Gm. daily.

Results: Of the seven patients, five patients showed marked benefits. An improvement was considered marked if there was complete or almost complete cessation of the asthma attacks, or in which there was a significant reduction in the frequency and severity of the attacks.

One patient (Case No. 7) who experienced marked benefit for 6 weeks of therapy suffered a relapse when medication was discontinued. The asthma progressed until he was in status asthmaticus and required hospitalization. He was known to have eaten a suspected allergic food prior to this episode. The patient had discontinued the Marisone prior to this period of exacerbation.

Two patients were not benefited by Marisone therapy and were considered failures (Cases No. 3 and No. 4).

In most of the improved patients, exposure to allergens still resulted in attacks of bronchial asthma; however, these episodes were less severe and of much shorter duration. One patient (Case No. 1) was known to be allergic to pork which precipitated severe continuous asthmatic episodes. He has been able to tolerate pork since he has been treated with Marisone.

The most marked objective and subjective improvement was noted usually after three to four weeks of continued therapy, but in some patients significant clinical effects were noted within one to two weeks.

All of the patients, except Cases 3 and 4, were considered to have emotional instability as a con-

*Kindly supplied by the Ayerst, McKenna and Harrison, Ltd.

tributary cause in the perpetuation of the bronchial asthma. Among the benefits first seen in the general condition of these patients was the improvement in their emotional state and attitude. Subsidence of the asthmatic phases followed.

CASE REPORTS

1. Patient C.C. (Figure 1)

Typical of the response to Marisone therapy is a 58 year old male who first developed severe bronchial asthma in November, 1949, precipitated by a

(Fig. 1) along with an improvement in other signs and symptoms. Relapses in clinical control occurred only during the intervals when the patient was not taking Marisone. Total eosinophil counts reflect the clinical state as indicated in Figure 1 above. This patient has progressed so that his vital capacity has reached predicted levels. He is now able to eat pork without symptoms.

2. Patient V.M. (Figure 2)

Patient is a 34 year old white female who has had

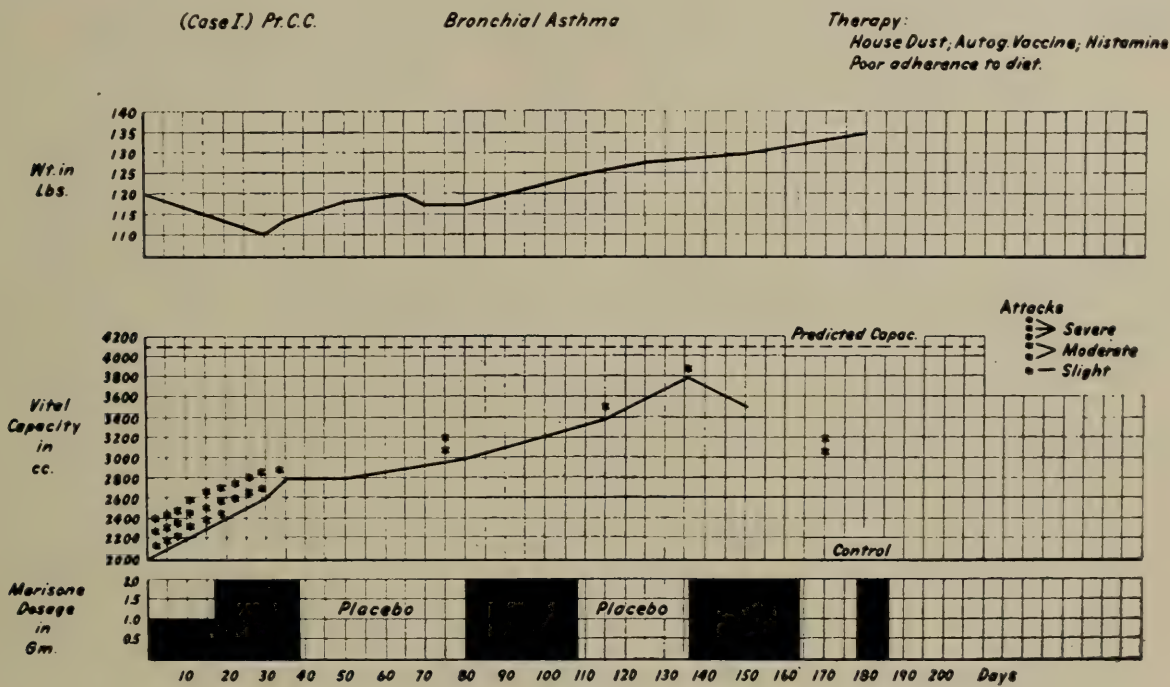


Fig. 1.

severe emotional upset. He was hospitalized in status asthmaticus and given intensive symptomatic therapy for three weeks. After discharge from the hospital, he continued to have moderately severe asthma necessitating re-hospitalization on two occasions. X-ray therapy to his chest gave some relief. Allergic study revealed marked sensitivity to dust and bacteria together with a clinical sensitivity to pork. A hypo-sensitization program for dust and autogenous vaccine and the elimination of pork was initiated in January, of 1950, and has been continued since. His vital capacity after intravenous administration of 0.5 Gm. Aminophylline was 1.5 liters. Marisone 1.0 Gm. was started in June, 1950. One week later the dose was increased to 2.0 Gm. per day (400 mg. 5 times daily).

A progressive increase in vital capacity was noted

severe uncontrolled bronchial asthma for six years. First seen on October 5, 1949, she was found to have a constant wheezing, dyspnea, emphysematous breath sounds, cough, loss of weight, and expectoration of a thick sticky yellow sputum. Intradermal skin testing revealed a 4 plus reaction to house dust and low grade reactions to foods and molds. There were some clinical proven food reactions. Treatment consisted of avoidance of suspected foods and hyposensitization to house dust, autogenous vaccine and histamine. X-ray therapy to the chest was given October 27, 1949. As a result of this regime she improved about 50 per cent but still continued to be short of breath and have attacks of asthma. Emotional disturbances and anxiety tension precipitated many of these attacks. Marisone was begun on July 17, 1950, with 1.0 Gm. daily (Fig. 2). Her

vital capacity was 1.1 liters, predicted level 3.2 liters. Because there was no improvement, on July 31, 1950, the dose was increased to 2.0 Gm. daily.

On August 7, 1950 her asthma was improved and her vital capacity 1.3 liters. On August 14, 1950, her asthma was almost completely controlled, but the patient complained of fatiguability. Marisone was discontinued on August 28, 1950, because the patient was free of asthma, but complaining of progressively increasing fatiguability. Vital capacity was 1.6 liters. The patient did well without Marisone until November 17, 1950, when a mild recurrence was noted. On November 30, 1950, she was

severe asthmatic episodes and little Marisone for one month, fell to 1.1 liters.

Later Marisone was given in effective doses without producing side effects, except a recurrence of mild fatigue and nervousness. The asthma gradually but markedly improved. Vital capacity reading on March 20, 1951, was 2 liters.

During the Marisone therapy there was no effect on blood pressure, red cell count, hemoglobin, leucocyte count, nor urinary albumin, sugar, or microscopic sediment.

3. Patient G.M.

Patient is a 45 year old white male who was first

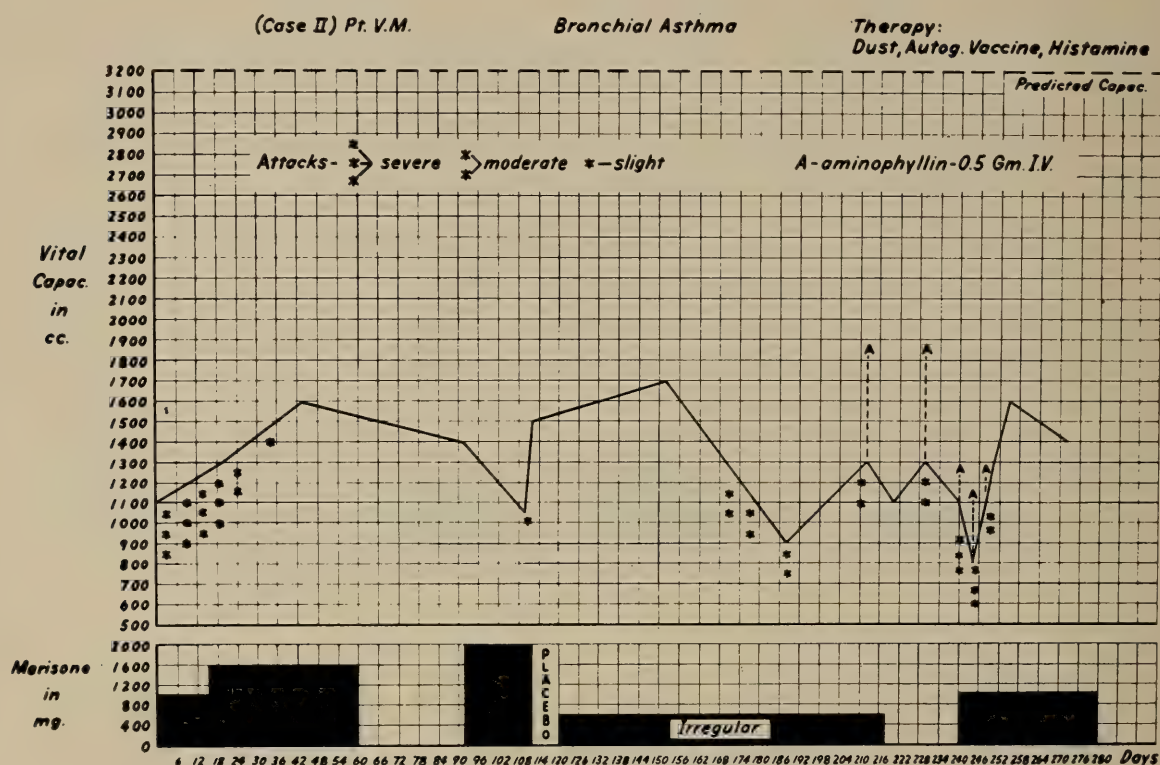


Fig. 2.

still having mild attacks which were increasing in severity. The vital capacity was 1.7 liters. Marisone, one gram daily, was again started but after a few days the patient lowered the dosage because of nausea and vomiting which gradually became more severe. She then took her medicine very irregularly and frequently failed to take any at all. A moderately severe recurrence of the asthma ensued. Even three capsules daily (600 mg.) was sufficient to make her asthma less severe, but two or less showed little effect. Her vital capacity, after having had

seen on June 4, 1949, complaining of bronchial asthma and pollenosis of two years duration. His symptoms were perennial, but considerably worse in the spring, summer, and fall. Intradermal skin testing revealed marked reactions to house dust, grasses, and weeds. Hyposensitization resulted in a marked improvement with only occasional attacks. Exposure to increased amounts of house dust resulted in increased asthmatic episodes. Marisone was started on September 16, 1950, with 1.0 Gm. daily while the patient was having daily moderately severe attacks

of asthma and allergic rhinitis. On October 21, 1950, the Marisone was increased to 2.0 Gm. daily. On November 4, 1950, a slight soreness of the nipples was noted. Marisone was stopped November 11, 1950, after having had no effect on either the asthma or the hay fever. The patient did note, however, an improvement in his mental and emotional state. This patient was later controlled completely by means of better application of the usual allergic therapy methods.

4. Patient S.G.

This patient was a 54 year old white female who suffered from severe daily attacks of bronchial asthma which had become progressively worse. Onset was 1927. She was first seen on March 20, 1950, and the skin tests were positive to pollens, foods, dust, and molds.

Allergic management resulted in a marked improvement which lasted until December, 1950, when she developed a severe asthma following the breaking of her diet and a marked emotional difficulty.

having frequent mild attacks of asthma since 1944. The attacks were of varying severity but were becoming progressively worse at night. Excessive fatigue, nervous tension, and lack of pep were constant complaints. Nervous tension, whiskey and beer have caused asthmatic attacks. Physical examination revealed an underweight, intelligent, nervous, chronically ill 48 year old white male. There were numerous sibilant and sonorous rales in both lungs.

Laboratory Studies: A complete blood count and urine were normal; vital capacity was 1.5 liters; B.M.R. minus 20 per cent. Skin tests revealed 4 plus reactions to house dust and shrimp. Some molds, foods, and pollens gave low grade reactions. A chest X-ray was reported as "moderate generalized bronchitis".

Treatment consisted of a basic diet, hyposensitization to house dust, horse dander, tobacco, and molds. Thyroid, aminophylline and elixir of phenobarbital were given. Although he improved slightly, his asthma continued to distress him. He was under a

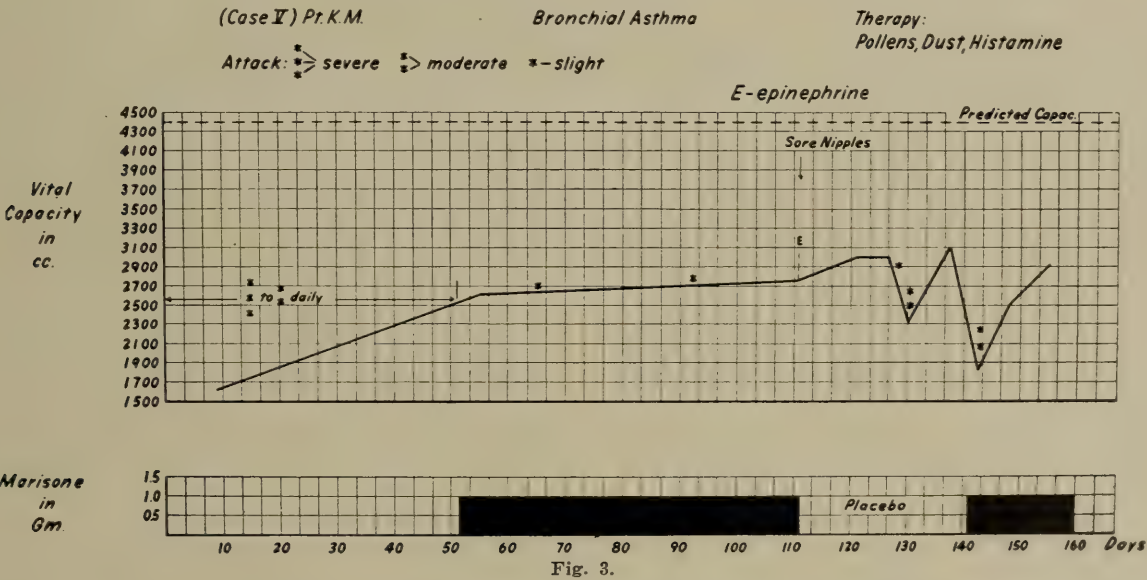


Fig. 3.

On January 5, 1951, the vital capacity was 2.7 liters. Marisone 1.0 Gm. daily was begun. By February 16, 1951, there was still no effect from the Marisone. On February 18, 1951, the vital capacity was only 1 liter: twenty minutes after intravenous aminophylline it was 1.75 liters. On February 18, 1951, Cortisone (100 mg.) daily was started orally and the patient cleared of her asthma and is now in allergic balance.

5. Patient K.McC. (Figure 3)

First seen October 27, 1950, this patient had been

constant emotional strain due to conflicts at home. Marisone was started on December 18, 1950, with 1.0 Gm. daily (Fig. 3). On December 24, 1950, he reported that he "felt like a different person." He still had asthma but felt so much better mentally that his asthma was easier to tolerate. From this time on the improvement in both the asthma and mental state was continuous and progressive. In spite of continued difficulties at home, there was no exacerbation of his asthma. On February 15, 1951 he complained of tenderness of the nipples. Place-

bos were begun February 17, 1951. Wheezing began to recur February 26, 1951. The asthma gradually progressed in frequency and severity. March 17, 1951, Marisone, 1 gram daily, was again started. By March 31, 1951, there was a considerable improvement.

There has been no toxic effect seen on the red blood count, hemoglobin, leucocyte count, blood pressure, pulse, nor urinary sugar, albumin, or microscopic examination.

6. Patient S.H.

A 66 year old white male was first seen on November 2, 1950. He had had recurrent asthmatic attacks since June, 1950. The attacks were becoming progressively more frequent and severe and when first seen were occurring daily. A marked emotional tension was noted. Physical examination revealed a chronically ill white male who was dyspneic, wheezing, coughing and whose chest was emphysematous. There were numerous sibilant rales bilaterally. Previous hospitalization resulted in no improvement. Positive intradermal skin tests were obtained to foods and pollens. On a basic diet he improved dramatically, but in about ten days and while supposedly on the same diet the attacks recurred. He was treated with house dust, stock vaccine, diet and pollen hyposensitization. Elixir of phenobarbital was given without reducing the intense emotional tension. On November 30, 1950, the vital capacity was 1.65 liters after intravenous aminophylline (0.5 Gm.). Marisone was started on December 29, 1950, at 1.0 Gm. daily. His emotional status and asthma improved markedly. On January 8, 1951, his vital capacity was 3 liters. On January 26, 1951, he had an asthmatic attack which was mild, lasted only two days, and was not as severe as formerly. He was eating out and not adhering to the diet nor the Marisone regime during this period. Marisone was stopped February 4, 1951. February 8, 1951, following a lima bean food test he developed a severe asthmatic state progressing to a status asthmaticus. He was hospitalized. Marisone was not resumed.

This patient developed an unusual and marked improvement over and above that obtained during the period prior to Marisone therapy wherein all of the methods of the usual allergic management were being observed.

7. Patient A.D.

This patient is a 74 year old white female who

was treated for antero-septal myocardial infarction in February, 1950. The decompensation which followed this attack was easily controlled by digitalization with crystodigin, ammonium chloride and mercurial diuretics. Crystodigin, 0.1 mg. daily has been continued. In July, 1950, she developed mild wheezing episodes and musical rales were heard throughout the chest. This wheezing, accompanied by mild attacks of dyspnea, continued and was relieved by small doses of epinephrin. These attacks of asthma gradually increased in frequency and severity. Marisone was begun September 18, 1950, with 2.0 Gm. per day. At this time her weight was 88 $\frac{3}{4}$ pounds and her vital capacity was 1 liter.

The asthma gradually improved and in four weeks she was asymptomatic. Her vital capacity in February, 1951, was 1.4 liters and her weight 93 $\frac{3}{4}$ pounds.

This patient is an arteriosclerotic cardiac who developed clinical bronchial asthma superimposed on her previous cardiac status. The cardiac reserve has been under excellent control prior to, during, and since the advent of her bronchial asthma. No allergy tests were performed on this patient.

There were no apparent toxic effects on blood pressure, pulse, red blood count, white blood count, hemoglobin, or urinary albumin, sugar, or microscopic sediment.

DISCUSSION

The series of asthmatic patients reported in this paper is small. The patients, however, were selected for lack of control by means of the usual method and/or chronicity. Further study and observation in all types of asthmatic patients will be necessary before the usefulness of Marisone in the average patient can be ascertained. Jaros and Spielman³ reported increases in vital capacities following Marisone during the treatment of seven previously uncontrolled asthmatic patients. Although their dosage was lower than used in this series, the results reported in this paper confirm their findings.

After prolonged and high doses (1.0 to 2.0 Gm. for 5 to 9 weeks) some patients may complain of a slight soreness of the nipples. This complaint subsides promptly on the cessation of therapy.

Marisone is an effective agent for adjunctive therapy in chronic intractable bronchial asthma. The improvement seen in this series was most apparent

in those patients who had a prominent emotional instability underlying their chronic allergic state.

Jaros reported no effect on the antigen-antibody reaction as determined by skin testing in Marisone treated asthmatics*.³ This observation has been repeatedly reported in patients treated with cortisone.^{1,5}

That there is a metabolic change induced by Marisone is clearly indicated by the fact that a few patients developed tenderness of the nipples and, in some, slight enlargement of the breasts.

The improvement noted in these patients was gradual and was best noted after 3-4 weeks of continuous therapy. In most, there was a rather long "carry-over" with continued improvement for varying lengths of time after the stopping of the drug. There was no immediate loss of beneficial effect on discontinuing Marisone. The recurrence of symptoms was gradual after a varying period. This slow but progressive improvement is believed to be not unlike that of other endocrine products, i.e., desiccated thyroid.

It is too early to ascribe the effects of the Marisone to any one steroid group since the exact composition of this natural complex is as yet unknown. The full effects of Marisone on human physiology are apparently somewhat different than that of ACTH or cortisone. Marisone lacks the dramatic effectiveness, does not block the allergic reaction, can be given for long periods in high dosage without apparent severe toxic effects, has no effect on the ketosteroids,^{2,3} carbohydrate metabolism,^{2,3} blood pressure, nor circulating eosinophile level.⁴ If 50 mg. of Marisone compares to 5 mg. of cortisone acetate in its effects, as has been noted in the laboratory animal,^{2,3} then 1.0 Gm. of Marisone would compare to 100 mg. of cortisone daily. Our study does not allow such a comparison. The difference, of course, might be due to a quantitative and qualitative variation in the sterods of the natural steroid complex.

SUMMARY

1. Seven patients with chronic intractable bronchial asthma were treated with 1.0 to 2.0 Gm. Mari-

sone daily for periods varying from 6 weeks to 7 months.

2. Five of the seven patients obtained good to excellent improvement.

3. All improved patients were emotionally unstable and under great tension. This was considered a marked aggravating factor in their asthma.

4. The only major side-effect noted was tenderness and swelling of the breast and nipples after 5 to 9 weeks of therapy.

5. In those patients who improved, the exposure to known allergens generally resulted in attacks of asthma which were less severe and less prolonged than usual. In one patient no asthma occurred in spite of exposure to a known allergen (pork).

6. Marisone was an effective agent for adjunctive therapy in this series of chronic intractable bronchial asthmatic patients. The effect on the emotional and nervous makeup of the individual may play an important part in the results obtained.

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CHRONIC INFECTIOUS GRANULOMA OF THE LARGE BOWEL— Case Report

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This presentation is a report of a case of chronic infectious granuloma. The interest in this entity is evident in the numerous references to it in the literature. Most authors emphasize, as is done here, that, short of actual histological examination, there is no definite means of differentiating this condition from malignant neoplasm, particularly when it occurs in the colon.

CASE REPORT

This thirty year old white male was admitted to the Medical Service of McGuire Veterans Administration Hospital on October 12, 1949, complaining of weakness, weight loss, intermittent diarrhea, and cramps in the abdomen for two years. His history dates back to 1942 when, while in the Ascension Islands, he developed diarrhea which persisted for one to two months and gradually cleared without any specific treatment. After return to the states, he got along well until 1947 except for occasional loose stools. By May, 1947, he was having more frequent bowel movements, abdominal cramps, and had lost twenty pounds. He consulted his local medical doctor who, after stool examination, told him he had both vegetative and cystic forms of ameba. Following treatment with emetine and carbozone, he was again relatively asymptomatic except for occasional loose watery stools, and a check-up in June, 1948, showed no more amebae in his stools. His symptoms recurred in February, 1949, with five to six loose stools daily, cramps in the abdomen, and weight loss. He developed generalized weakness and inanition, and was referred here for treatment. On admission here, the patient was pale and looked chronically ill, with evidence of recent weight loss. His temperature was 99 degrees. Examination of the abdomen revealed a large, tender mass in the right lower quadrant extending from the pubic ramus upward past the level of the umbilicus. Because of anterior abdominal wall spasm and acute tenderness

of the mass, its exact size could not be definitely determined. There was moderate right psoas muscle spasm.

Laboratory studies showed Hbg. 10.4 gms., RBC 3,700,000. Differential was relatively normal. Stool cultures and agglutination tests were negative for any of the typhoid dysentery groups and repeated examinations for ova and parasites were negative. Total serum protein was 5.8. Liver function tests were normal.

Barium enema examination (Figs. 1 and 2) on



Fig. 1—The barium enema demonstrates the intra-luminal filling defect in the region of the hepatic flexure. The incomplete filling and the markedly altered mucosal pattern of most of the ascending colon is visualized.

October 17, 1949, revealed a partial obstruction to the flow of the contrast material at the hepatic flexure. Here a rounded filling defect was seen protruding into the barium-filled lumen. That portion of the colon from this defect and extending proximally for

*From Department of Radiology, McGuire Veterans Administration Hospital, Richmond, Virginia.

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a distance of 8.0 cm. showed the mucosa to be altered markedly from the normal, suggesting destruction and polypoid formation. Only a small quantity of barium entered and was retained by this segment. The contour outline and haustral pattern were completely absent. The cecum showed more normal filling.



Fig. 2—An enlargement of the involved segment of proximal colon.

The patient was first treated with aureomycin with some relief, but on November 9, 1949, his temperature rose to 102 degrees and treatment with emetine and carbozone was then begun. In spite of this therapy, he showed practically no improvement and continued to have muscle spasm. The size of the mass in the right lower quadrant showed no

change. Repeat barium enema on November 14, 1949, also showed no change, and, at that time, it was felt that further medical treatment would be of no avail. He was transferred to the Surgical Service where, after thorough preparation with transfusions, vitamins, and chemotherapy, an exploratory laparotomy was performed under continuous spinal anesthesia.

Exploration was carried out on December 6, 1949, at which time a large granulomatous mass involving the cecum and ascending colon was found. A portion of the terminal ileum and all the right colon up to the proximal one-third of the transverse colon was resected and an end-to-side ileo-transverse colostomy performed. The patient's post-operative course was uncomplicated.

Pathology Report—(Dr. Simon Russi, Pathologist): A well localized, annular lesion occupying a 9 cm. long segment of the cecum and proximal ascending colon was found. The external contour of the resected gut was somewhat distorted at the site of the lesion. The diameter of the intestinal tube was increased in the involved area. The haustra and taeniae were obliterated. The intestinal wall was markedly thickened. The usual mucosal pattern of the intestine was sharply interrupted at the proximal and distal margins of the thickening. The circular folds of the mucosa were replaced by spherical nodules varying from 2 to 8 mm. in diameter (Fig. 3). The nodules were set very close to each

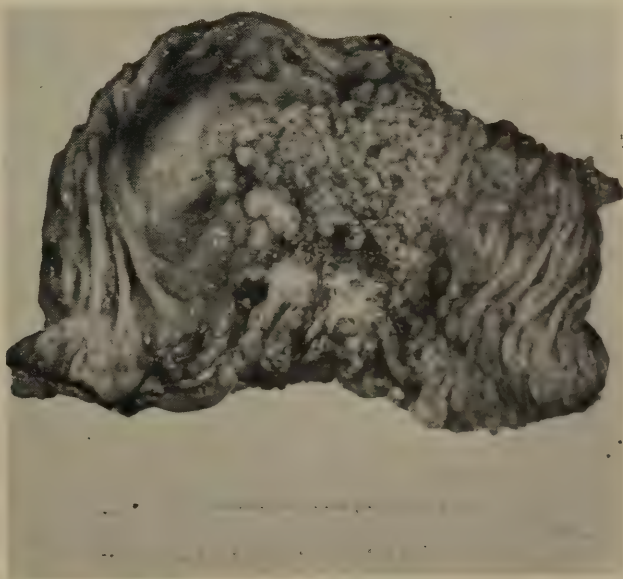


Fig. 3—The replacement of the usual mucosal pattern by multiple nodules, ulcerations and scar tissue are demonstrated in the gross surgical specimen.

other. The surface of each nodule was fairly smooth and their sides touched the sides of adjoining nodules. Several tortuous sinuses originated in deep ulcerations between the nodules and penetrated deep into the wall of the intestinal tube. Some of the sinuses communicated with each other. One of the larger ones led through the entire thickness of the wall to the serosal surface, emerging at the base of the appendix. Many appendices epiploicae were attached to the serosa. The serosal surface was dull and presented a few focal hemorrhages, probably of traumatic nature. Cross section of the intestinal wall at the site of the lesion was honeycombed with sinuses containing fecal debris and pus.

Microscopic sections were made at different levels of the largest sinus tract mentioned above. The epithelium was intact except at the opening of the tract. It formed broad polypoid projections. The straight crypts of Lieberkühn were lined by a regular tall columnar epithelium, rich in goblet cells in some instances and poor in others. A sinus tract lined by a densely inflamed granulation tissue was seen in all levels of the bowel wall. The tract also contained dense masses of purulent material. The inflammatory exudate which was composed of granulocytes, monocytes, plasma cells, macrophages, and occasional foreign body giant cells was found in varying degrees throughout all layers of the wall (Fig. 4). There was no evidence of neoplasm. No

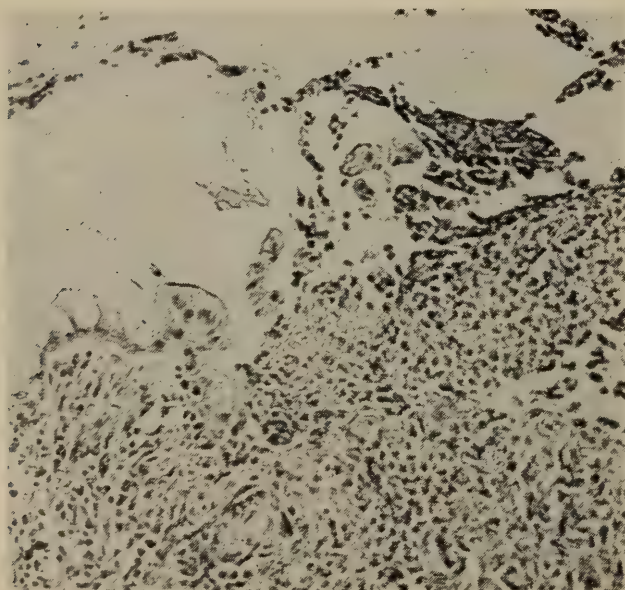


Fig. 4—A microscopic section through the involved segment demonstrates the inflammatory exudate. The mucosa in this region has been destroyed. There is no evidence of malignant cells nor of parasites.

parasites were found in the sections. The inflammatory reaction was consistent with secondary infection of long standing. The final diagnosis was: Colon, granuloma.

DISCUSSION

This case strongly suggested that amebic granuloma was the source of the disturbance. The antecedent history of stools positive for amebae, the initial response to amebicidal therapy in 1947, and the length of the history itself were all in favor of a non-carcinomatous process. The failure to recover the amebae, however, in the stool after many repeated attempts, and the lack of response to emetine therapy during the last hospital period threw doubt upon amebiasis. The presence of an abdominal mass in the right abdomen associated with diarrhea, weight loss, anemia, and cachexia were symptoms highly suspicious of carcinoma. The roentgen findings of the destruction of the mucosa, the filling defect, and the sharp transition to normal bowel contour were suggestive of carcinoma. As almost invariably results, the final diagnosis could be made only by the pathologist, and not conclusively by pre-operative deduction.

SUMMARY

1. A case of chronic granuloma of the large bowel in a thirty year old white male is presented.
2. The difficulty of differentiating this process from malignant neoplasm is emphasized.

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Cost of Living Outruns Medical Care Expenses.

Medical care costs are lagging well behind the rapid climb of the cost of living, according to a study made by the American Medical Association's Bureau of Medical Economic Research.

The finding, based on statistics presented by the United States Bureau of Labor Statistics, showed that in 1951 the price index on all items in the consumers' budget rose almost twice as many points as the price of medical care.

The cost of living index in 1951 for moderate-income families in large cities was 185.6 (1935-1939 is considered a base level period equal to 100), according to Frank G. Dickinson, Ph.D., Chicago, director of the bureau. This compares with 171.9 in 1950, or a rise of 13.7 points.

On the other hand, the medical care and drug index during 1951 was 155.0, as against 147.9 the year prior—an increase of 7.1 points.

"The consumers' price index [cost of living] has risen 86 per cent since the base period, while the price index of medical care has risen only 55 per cent," Dr. Dickinson stated.

Physicians' fees also have been climbing much slower than the cost of living, he added. The fee index last year was 145.2, representing an increase of 45 per cent over the base period, compared with the 86 per cent rise in living costs. In 1950, the fee index was 140.0.

The greatest rise has occurred in hospital room rates, Dr. Dickinson's report pointed out. This

reflects soaring labor and material expenses, he added. The hospitalization index stood at 260.7 in 1951, as against 235.3 in 1950. The report stated, however, that the average hospitalization period has been declining steadily.

Medical Education Grants in Year Pass \$2,500,000.

More than \$2,500,000 has been distributed to the medical schools of the nation in the last 12 months by the National Fund for Medical Education, of which \$1,417,752 came from the medical profession. Announcement to that effect was made in the August 2 *Journal of the American Medical Association*. The profession's participation was through the American Medical Education Foundation and included \$1,000,000 contributed by the A.M.A. and the remainder by state societies, the Woman's Auxiliary to the A.M.A. and individuals.

Commenting on the part played by doctors in the nationwide program to raise funds for medical education, the *Journal* said editorially: "It is thus clear that the medical profession is setting an example of self-help that should stimulate industry and other groups in American society to make their contributions to this important undertaking."

The American Medical Education Foundation, which is conducting the drive among doctors, has set an annual goal of \$2,000,000. It is hoped that this goal will be reached in 1952, since the number of individual contributions so far this year has been 42.3 per cent more than in all of 1951. The National Fund has a \$5,000,000 annual goal.

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.

Commissioner, Department of Mental Hygiene and Hospitals

The Psychopathic Personality*

It has long been observed among those specializing in the field of psychiatry that there are certain individuals in our society who, while not suffering from any definite mental illness, are obviously abnormal in their social relationships. These individuals have been classified for a long time under the general diagnosis of constitutional psychopathic personality. This diagnosis has recently been superseded in the official American Psychiatric Association nomenclature by the title "sociopathic personality disturbance". This group, whose presenting symptom is usually in the form of behavior disorder, fits into no specific classification yet there is an overall pattern by which the psychopathic personality can usually be diagnosed.

The word "psychopath", of course, means diseased mind. This term is freely used in connection with individuals whose behavior does not conform to conventional standards and there is much difference of opinion concerning the exact category into which these cases should be fitted. These people are not psychotic; neither do they show psychoneurotic symptoms. Sometimes it is a question if they really belong to psychiatry. A great many of these individuals are found to be highly intelligent. Frequently, physicians accept them as patients with the view that they are merely cases of simple maladjustment or emotional disturbance.

The true psychopathic personality, in order to fit into this grouping, will always be found to have a much deeper seated behavioral disturbance than is found in the cases of simple maladjustment. They seem to gravitate to levels of submarginal behavior and they are often identified by such terms as lazy, eccentric, quarrelsome, fanatical, emotionally unstable, moral imbeciles, vagrants, sadists, habitual criminals, kleptomaniacs, pyromaniacs, sexual perverts, pathological liars, swindlers, etc. Such individuals can always be found in our jails, penitentiaries, alms houses, and also in and out of institutions, including our State mental hospitals. It

is impossible to determine the dynamics of the behavior of a psychopath. He always has a ready and plausible explanation for his motives, even when they lead him into trouble. His personality is characterized by such rigidity that he cannot be reached by reason, argument or counsel. These individuals may be able to cover up their lack of ability to conform to conventional society for a time and to make very favorable contacts in a community. They will, however, in time always show their true colors.

Probably the most distinguishing trait of a psychopathic personality is his egocentricity. He will always be found extremely self-centered—very like a young child. Another thing which stands out is the fact that he possesses no deep love for anyone but himself. His lack of innate sympathy renders him incapable of putting himself in another's place. He does not realize, nor does he try to determine, how his actions may adversely affect others. The world exists for him alone, and anything that interferes with his enjoyment of it is pushed ruthlessly aside.

The psychopathic personality, although very frequently highly intelligent, bright, and alert, is a poor student. He willfully learns only that which he wishes to learn. This characteristic is a differentiating point between a psychopathic personality and a mental defective. The mentally defective child, if given the opportunity, will learn up to the limits of his capacity. The psychopathic personality in his learning process picks and chooses what he wants to learn and discards that which he does not desire to learn.

Another outstanding characteristic of the psychopathic personality is that he never learns from experience. He will do the same thing over and over again, no matter how much punishment he receives nor how much trouble it may cause to others. It appears that he continues to believe steadfastly that the next time he does the same thing he will be able to get away with it. As mentioned before, most of these individuals are above average intelligence. It is when there is a combination of

*Article by F. L. McDaniel, M.D., Assistant to the Commissioner, and State Mental Hygiene Program Consultant.

mental deficiency and psychopathic personality that we have the defective delinquent. These are dangerous because the reckless proclivities basically inherent in the psychopath are given full play.

Dr. Overholser, of Saint Elizabeth's Hospital, Washington, D. C., in his *Handbook of Psychiatry* reports his observation of a notorious criminal serving a sentence of 99 years in a Federal prison. This prisoner was a classic example of psychopathic personality and had behind him a long and spectacular criminal career. Dr. Overholser states that he asked this prisoner a simple question, which was: "As an intelligent man, why have you, after each criminal experience for which you were punished, returned to society and committed the same crime over again?" The prisoner asked Dr. Overholser to write the question down and give him time to study it. A few days later he wrote his reply to Dr. Overholser. He stated that he had circulated the question among eight "repeater" prisoners like himself. They had all made essentially the same reply: "I expected to get away with it the next time."

Another significant trait of the psychopathic personality is his marked tendency to "blow up" under emotional stress and frustration. Under such conditions he frequently becomes moody, depressed, or exhibits violent temper tantrums. Frequently, if he is placed in close confinement, such as in a jail or penitentiary, he exhibits a real psychosis which is usually termed situational psychotic reaction. In one of the serious prison outbreaks which recently occurred, the leader of the rebellious group of prisoners was a known psychopathic personality. The man was highly intelligent, a leader and organizer, and under his direction the rather prolonged revolt was carried out. When the revolt had been quelled this particular prisoner was placed in punitive confinement where he immediately went into an acute and violent situational psychotic reaction. His activity was typical of the reaction of a psychopath when cornered. He went into a tearing rage, became destructive and was delusional.

Frequently laymen, especially prison or military authorities, feel convinced that this reaction is pure malingering. They cannot understand how an apparently alert and sane individual can suddenly develop into a "raving maniac".

The average psychopathic personality in his general interpersonal relationship frequently gives the

impression of child-like reactions occurring in an intelligent adult. He appeals to people as a spoiled child would who wishes to be humored. Such an individual in the family usually rules the roost by tears, threats, poutings, and abuse. His attitude is, "I'll do or have what I want or—else".

It goes without saying that individuals of this type are not wanted in the military services or in any other large organization. They are always a constant nuisance. They are constantly in trouble and frequently involve others by their shrewd method of passing the blame on to someone else or by causing young, inexperienced persons to aid them in their schemes.

In organizations such as the military forces, their propensity for braggadocio and pathological lying frequently builds up hero worship in young recruits, and hatred toward themselves on the part of older service men. No one person can break up discipline in a military outfit quicker and more completely than a psychopathic personality. Consequently, as soon as they are discovered they are usually discharged from the service. Thus, in time of war they consciously or unconsciously profit by their psychopathic behavior by being able to avoid combat duty during wartime while they go from place to place working for short periods in the plentiful and lucrative wartime jobs. They never hold a job long at a time, however, because they are equally as objectionable in civilian industrial occupations.

Concerning the etiology in the development of psychopathic personality, many authorities believe there is a large constitutional factor. There is much evidence to indicate that such individuals are inherently defective in their makeup. British authorities, who call these individuals "moral embeciles", believe that certain faculties of ethical perception and ability to adjust in their interpersonal relationships are basically lacking. A great many psychiatrists, however, strongly believe that early environmental influences play the most important part in the development of this condition. Dr. Tredgold of the University of London who has had much experience in this field, has stated that early unsatisfactory environment may dull the ethical and humanistic feelings of the youngster which could shape and produce life-long maladjustment. Many American authorities hold the belief that an individual who is subjected to a well adjusted child-

hood and healthy early environmental influences seldom, if ever, develops into a psychopathic personality.

The handling of such individuals is always a problem, not only to the physician who frequently sees such cases, but to all members of society who are called upon to handle them, i.e., judges, social workers, prison authorities, school authorities, and so on. As mentioned before, the psychopathic personality will sometimes develop a situational psychotic episode when he gets into serious difficulties. At such times he may be committed to a mental institution. Usually, under the care of such a hospital and especially if allowed privileges, the psychosis will rapidly clear up and he may be discharged "without psychosis". However, no sooner is he back in the community than he gets into trouble again. It is fortunate for society that these individuals do not as a rule commit major crimes. The great majority are in the categories of alcoholics, drug addicts, prostitutes, petty thieves, and so on.

Up to the present time psychiatrists have not developed any form of treatment which seems to be of advantage in these cases. All forms of standard therapeutic procedures have been tried without success. There have been reports from psychiatrists of results from certain procedures, such as various forms of psychotherapy or treatment by electroshock therapy, and even psychosurgery. Successful results have not generally been obtained and it is possible that those few reported as successfully treated were not true psychopaths but belonged in other categories of mental illness.

If early childhood maladjustment and unfavorable environmental situations do produce psychopathic personalities, then it seems to this writer that every effort should be made to attack the problem in early childhood. It may be that our present mental hygiene clinic program can be useful in the detection and treatment of incipient cases. Our mental hygiene clinics at the present time, using their team approach to childhood problems, are able to understand and correct deviations of behavior and emotional disturbances and thus may prevent the future development of a psychopathic personality reaction.

How early in life can evidences of psychopathic

personality be detected? Frequently in very early childhood psychopathic traits may be noted by an experienced observer. For instance, it is suggested sometimes in the stubborn child; also, the child who is aggressively insistent on having his own way. Then there is the very bright but unteachable child. Although above average intelligence, he refuses to learn. There is, again, the abnormally selfish and unaffectionate child. All of these traits may tend to become more marked as a child approaches adolescence. These early traits are not so evident in overt behavior, but in the general attitude—the attitude of self-centeredness, lack of normal love attachments, temper tantrums, emotional instability, and so on.

In conclusion it may be stated that psychopathic personality is preeminently a life-long reaction disorder. While there is some evidence that such a condition is genetic in origin, at the present time most authorities feel that the condition grows out of early childhood environmental factors. It is the opinion of this writer that the most hopeful view to be taken for the solution of this problem is the proper education of the parent concerning the emotional needs of childhood and the understanding of methods for bringing about proper environmental situations during the early life of the child. This understanding is needed also by all persons who deal with children during their early formative years and especially in the relationships of the child to the community, the school, and the home.

The outlook for the fully developed psychopathic personality is not hopeful. The condition becomes a life-long reaction disorder and the question of rehabilitation is mainly a problem for society along social and educational lines. Although the picture of psychopathic personality has been painted very darkly, it is to be hoped that within the foreseeable future this condition will be given more serious attention from the standpoint of treatment than it has had in the past. It may be that early and rational preventive measures, such as are now being carried on in our mental hygiene program and in our community mental hygiene clinics, will serve to prevent the later development of this disorder.

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.

State Health Commissioner of Virginia

The Practice of Medicine and Public Health

The fine relationship that exists in Virginia between practicing physicians and public health workers is admirably outlined in the following remarks made by Dr. J. T. T. Hundley, President of The Medical Society of Virginia, before the Conference of State Health Workers at Roanoke on June 11, 1952:

"The last few generations have witnessed tremendous changes in the pattern of medical practice as in life generally. Social and economic factors have intervened. Transportation has been revolutionized. Widespread contacts are the rule rather than the exception. The idea of social responsibility has been developed to such a degree that there is almost a reversal of attitude. Many diseases have been eradicated, and others subjected to efficient controls. The mortality patterns have changed. The population has been urbanized, and the social, economic, dietary, recreational, and environmental distinction between the urban and rural population practically eliminated. Traditional treatments have become obsolete, and replaced by startling therapeutic advances. The killers of babies and young children have been controlled. The population is older and rapidly aging. The pattern of medical practice is not what it was even ten years ago, nor what it will be in another decade.

"The improvements in social and environmental factors which are disease producing potentials are not uniform. Even in our own highly developed country there are islands and areas that exist in the Dark Ages medically. Outside of this country a large proportion of the world's population live in surroundings and under conditions which even the most careless and thoughtless of our great-grandparents would not have tolerated.

"Modern transportation and communication bring even the most remote portions of the earth only hours away. Distance is no longer measured by miles but by time, and our own medical safety is in constant danger from areas that lack our high standards. Unfortunately we also have always with us the sectarian, the faddist, and the ignorant, who inten-

tionally, or through neglect, permit health hazards to the rest of us.

"The world is a unit from the standpoint of communication, transportation, and health, but is still divided by racial prejudice, social and economic distinctions, national aspirations and jealousies, and conflicting ideologies.

"We are therefore in the anomalous position of having knowledge we can but partly use, of knowing techniques we can only partially apply, of owning resources which we cannot call upon. We can control epidemics and infections, but we are not permitted to do so. We constantly run the risk of the introduction of a devastating disease from without our borders, and it's spread like wild-fire before our resources can be mobilized. All these changes and problems impose new responsibilities.

"My Grandfather practiced in the country. His medicine was but slightly improved from that of Galen's day, but he could contribute about all that the medicine of that day had to offer. His skillful hands, his observant brain, his sympathetic heart, and the few drugs and instruments contained in his saddle-bags, were all he needed to practice as good medicine as was then known.

"How different is the medicine of today? Different not because it is easier, for it is not. In fact it is more difficult. The field of medical knowledge has so grown that medical practice has been divided into more than twenty distinct specialties, and many more sub-specialties. Diagnosis often involves numerous procedures, technical, complicated and difficult. Therapy has become more exact. Drugs are more potent, both in their beneficial and their toxic properties. Adjunctive assistance from nurses, technicians, social workers, psychologists, and special therapists of various types are often required. Hospitals and sanatoria are needed to house and utilize the complicated procedures of modern medicine.

"Galen could have practiced Grandfather's medicine with little difficulty, but Grandfather would be completely lost today.

"All of which means that the practice of medicine

has changed from a function of the individual, to the cooperative effort of a trained, highly skilled team.

"Like the chain, the team is no stronger than its weakest link, or member. To neglect one part while developing another, means lack of balance, inefficiency, and failure. It therefore behooves us, each and every one, to remember that we are part and parcel of a highly skilled, extremely important team, dealing with the most precious asset of a human being, the health and the life of a person created in the image of God.

"One of the strong links in that health chain, and a most vital one, is the public health worker, and his cooperative organizations. On him falls the control of contagion and epidemic, whether of near or far origin. His is the responsibility for the environmental safety of our surroundings. Laboratories, which the communities cannot maintain for themselves, are made available to all under Public Health auspices. When catastrophe strikes it is to the Public Health worker and his organization that we turn for aid and guidance. The water and the milk we drink, the food we eat, are safe because of his efforts. Sewage disposal and insect and rodent control are functions of his department. The list goes on and on, including those aspects of medical care that require the correlation and broad oversight that no individual can exert.

"If it were not for our Public Health organizations and workers, today's urban civilizations would be impossible. Contagion and epidemic would decimate any group which attempted to live in close contact.

"As a practicing physician I am proud to be a member of the team on which the Public Health worker is a star performer. I am glad to cooperate with him in his efforts, not because I help him, but because I could never manage without the assistance he so willingly and efficiently contributes to my practice, and to the practice of medicine generally."

MONTHLY REPORT OF THE BUREAU OF COMMUNICABLE
DISEASE CONTROL

	July 1952	July 1951	Jan.-July 1952	Jan.-July 1951
Brucellosis	8	9	21	42
Diarrhea & Dysentery	273	266	1384	1342
Diphtheria	6	4	52	72
Hepatitis ..	57	3	419	11
Measles	467	734	15114	13518
Meningitis (Meningococcic) ..	7	6	125	83
Poliomyelitis	55	20	74	41
Rabies in Animals	17	21	326	118
Rocky Mt. Spotted Fever ..	21	15	42	35
Scarlet Fever	17	19	533	688
Tularemia	5	3	33	24
Typhoid & Paratyphoid	11	6	44	29

Develop Plastic Surgical Instruments.

Surgical instruments made from methyl methacrylate resin (lucite, trade mark) have proved superior in many ways to their metal counterparts, it was reported in the July 12 Journal of the American Medical Association.

Developed for use in neurosurgical operations, the transparent plastic instruments are easy to make,

inexpensive, easily handled and light in weight, according to Dr. Frank T. Padberg, of the department of surgery, Northwestern University Medical School, Chicago, who designed the instruments.

In addition, he reported, the instruments are transparent so that underlying matter can be seen, they reflect light poorly, they do not conduct the electrocoagulating current, they are sufficiently strong, and they are durable.

THE MEDICAL SOCIETY OF VIRGINIA

REPORTS FOR THE 1952 ANNUAL MEETING

Executive Secretary-Treasurer

It is a tribute to the President, the Council, and the various Committees of The Medical Society of Virginia that the past year has, from all indications, been one of accomplishment. Certainly the help, encouragement, and above all the patience shown the Executive Secretary by the officers of the Society in this "year of orientation" has been deeply appreciated.

The regular mid-winter meeting of Council was held January 24 after having been postponed from December 18 because of inclement weather. The importance members of Council attach to these meetings was pointed up by a 100% attendance. (The minutes of the meeting were published in the March issue of the Virginia Medical Monthly.)

It can be said with no fear of contradiction that the past year has been first and foremost a "Committee Year". Perhaps in no comparable period in the history of the Society has there been quite as much committee activity.

Committees active during the year totaled 29. (12 standing committees, 16 special committees, and 1 temporary committee appointed by the President for a "one time only" job.)

The State Office was pleased to work closely with many of these Committees, and profited immeasurably from the experience gained "first hand". It is especially encouraging to note that 12 committees utilized the facilities of the Society Headquarters for their meetings and/or activities. This enabled the State Office to provide secretarial assistance, do necessary research, transcribe and prepare minutes and handle much of the pre-meeting arrangements. There is every reason to believe that all committees will soon take advantage of the facilities and services offered by the State Office.

Component Societies: The Medical Society of Virginia is presently composed of 46 component societies, each in itself a focal point of medical advancement and activity. A charter was granted the recently organized Amherst-Nelson County Medical Society, which supersedes the older Nelson County Society.

Some progress was made by the State Office in its efforts to work closer with the component societies. However, there is much more that can be done in this regard, and it is hoped that the officers of the component societies will more and more avail themselves of the services which the State Office can provide and which the component societies can rightfully expect.

It would be helpful if component societies would place the State Office on their mailing lists in order that a schedule of meetings, etc., will always be available. Another real help would be the sending of membership lists to the State Office not later than July 1 of each year.

The State Office was represented at meetings of the Mid-Tidewater Medical Society, the Fourth District Medical Society, and the Richmond Academy of Medicine. By Convention time, the State Office will have been represented at meetings of the Northern Virginia Medical Society and the Southwestern Virginia Medical Society.

Experience has shown the many advantages of the Executive Secretary-Treasurer getting into the field and learning "on the spot" how the State Office can best serve its members. It is hoped that as time goes by, The Medical Society of Virginia can be brought ever "closer home" to all its members.

Membership: Realizing that in this period of decision the medical profession must act in the most concerted manner to achieve its goals, a drive is underway to bring all eligible physicians into the Society. A statement as to membership follows:

Members reported in 1951	2252
New Members	145
Reinstatements	4
	149
Deaths	30
Resignations	20
Dropped	23
	73
Increase	76
Total Membership as of July 31, 1952	2328

American Medical Association Membership: In an effort to simplify and facilitate the collection of AMA membership dues, the State Office was directed by Council to bill members direct. The new billing procedure went into effect during March, and the results have been gratifying.

Economy: A determined effort has been made to reduce operating costs without sacrificing quality of work or reducing the number of services available in the State Office. In this connection, a thorough study was made of the office telephone facilities, and it was determined that only two lines could be justified. As a result, the service has been streamlined and changed in such a manner as to give more assurance that calls will be routed to the correct office. This modification is saving the Society over \$16.00 per month.

A "write whenever possible" policy was established and the saving in toll charges has been amazing.

A special bulk mailing permit for non-profit organizations was secured and it is now possible to send out more material at far less cost.

As time goes on the staff intends to ferret out the un-

necessary features of office operation which consume both time and money.

Selective Service: Detail work for the State Voluntary Advisory Committee to Selective Service continues to require a considerable amount of attention. However, there exists a strong belief that no time has been better spent. The Committee is rendering a real and necessary service to the nation, the community, and the individual physician, and it is a credit to the chairman and members of the Committee that Selective Service officials have on more than one occasion stated that Virginia's Selective Service work is progressing with the utmost smoothness and efficiency.

That this Voluntary Advisory Committee to Selective Service has its work cut out is attested to by the cases which have been considered.

Legislation: The past year has been an important—even critical—year in legislation—both on the national and state levels.

The Legislative Committee worked long and hard during the 1952 session of the State Legislature, and two special meetings were required to consider the flood of proposed legislation concerning medicine. You are urged to read the complete Legislative Committee report in this issue.

The State Office served throughout the year as a combination liaison and command post in the continuing battle against proposed national legislation detrimental to the interests of the medical profession. Several times, in cooperating with the AMA, communications were solicited and dispatched to Washington. These combined efforts have helped stave off the relentless attacks of those advocating Compulsory Health Insurance.

Meetings and Conventions: Both sessions of the AMA were attended by the Executive Secretary. The office was also represented at the AMA Public Relations Conference, the Conference of Medical Society Executives, the Middle Atlantic States Regional Conference, the annual meeting of the State Chamber of Commerce, and many others.

Directory: For the first time in the modern history of The Medical Society of Virginia, an official directory was compiled, printed, and distributed to the membership. Reaction to the directory has been varied, and will undoubtedly have much to do with whether or not it is to be published yearly.

Annual Meeting: The State Office has devoted much time during the past year to laying the groundwork for the 1952 annual meeting of The Medical Society of Virginia. Particular emphasis has been placed on the "little" things which often mean the difference between an excellent or just average meeting.

Every move has been coordinated with the Local Committee on Arrangements and its various sub-committees, and it seems safe to predict at this time that the innovations to be introduced by the committee will in themselves make the meeting different, interesting, and certainly successful.

Woman's Auxiliary: Valuable assistance is being ren-

dered by the Auxiliary in promoting the sale of the AMA plaque "To All My Patients". In addition, the President of the Auxiliary was instrumental in arranging for Auxiliary members to take care of the exhibit to be sponsored by The Medical Society of Virginia at the Atlantic Rural Exposition. But for this aid, it would have been impossible to present the exhibit this year.

Personnel: There has been no change in the number of office personnel during the year. The entire staff wishes to extend a most cordial invitation to the members and their guests to visit the Society Headquarters at 1105 West Franklin Street. The building and its facilities belong to you—and the staff is always pleased to be of service.

The books of the Society will not be closed until September 30 and a detailed report will be given the Council at its first meeting.

ROBERT I. HOWARD

Executive Secretary-Treasurer

Delegates to the American Medical Association

Obviously, it is impossible to do more than headline the actions of the June meeting of the House of Delegates of the A.M.A., since there were four days of meetings. Those interested are referred to the June 28 issue, pp. 851-876, and July 5, pp. 937-950 of the J.A.M.A. A full abstract of the proceedings is given.

During all of the sessions, reports from officers, Board of Trustees and the various councils showed the tremendous amount of "behind the scenes" work which is carried on by these unpaid officials at great financial sacrifice to themselves. To the freshman member (V.W.A.), this was a real demonstration of the progressive thinking of our A.M.A. leaders. It is unfortunate that the membership of the A.M.A. in general does not read these reports in detail as printed in the J.A.M.A. Steady progress is not newsworthy and does not make the headlines. It is suggested that each individual member consider the minutes of the House of Delegates as "required reading."

The distinguished service award went to Dr. Paul D. White of Boston.

The Speaker of the House gave an interesting analysis of the age and length of service of the members of the House of Delegates, the average age being fifty-nine years, the average length of service five and a half years. This serves to dispel the idea that the same aged group controls the House from year to year.

There was much discussion on a resolution condemning the President's Committee on the Health Needs of the Nation. From the free and open discussion and the personally presented views of Dr. Magnuson, Chairman of the Commission, it seemed that there was a mistake in timing the announcement of the committee appointments due to clerical errors which led to many of the confusing and conflicting statements. Dr. Magnuson made a definite statement that there would be no preliminary report prior to the final report which is to be made in December.

In this way, he demonstrated that he was very much against this being used as political material. The Reference Committee, to which the original resolution was referred, believes that no final judgment on the committee's work should be made until after release of the final December report, and presented the following resolution which was adopted:

"Whereas, The House of Delegates for many years has clearly enunciated principles of policy for dealing with problems concerning the health needs of the Nation; and

"Whereas, The officers and the Board of Trustees of this Association have diligently followed these principles; now therefore be it

'Resolved, That the conduct of the officers and the Board of Trustees regarding the President's Commission is a re-affirmation of the principles subscribed to by the vast majority of the members of the American Medical Association."

An honorarium of \$50 per day was voted for the President and President-Elect for each day they were away from home on official business.

Dr. Elmer L. Henderson, President of the American Medical Education Foundation, reported that up to June of this year, the sum contributed by individual physicians was a third greater than the total amount contributed during the entire year of 1951. The goal for this year is two million dollars.

Many resolutions were introduced relating to medical care of non-service-connected disabilities of veterans. A special committee of the Board of Trustees has been set up and will make a final report at the December meeting of the House of Delegates.

It was pointed out that it is not legally permissible for any medical society to participate in the campaign of any political candidate. As individuals, doctors can be as active as they wish.

There were many changes of a minor nature in the Constitution and By-Laws, the most important being the abolishing of "Fellows." All are now members.

A resolution was introduced by the Medical Society of North Carolina to approve the recognition of the Old North State Medical Association, a society of colored physicians and allied professions of North Carolina. The reference committee referred this to the Board of Trustees with the notation that due to constitutionality and the fact that this Association comprised physicians, dentists and pharmacists, the Board should study it.

No action was taken on Specialty Boards for certification of nonmedical persons such as Microbiologists, etc., awaiting the report of the study of the Council on Medical Education and Hospitals.

The following resolution relative to internships and residencies was introduced:

"Resolved, That the House of Delegates of the American Medical Association instruct the Council on Medical Education and Hospitals of the American Medical Association to undertake an immediate restudy and reevaluation of the policy of establishing residencies and internships toward the purpose of correcting the gross imbalance between the large number of established residencies and internships and the small number of physi-

cians available to fill them, with definite action, as soon as possible."

The House of Delegates referred this to the Council on Medical Education and Hospitals for further study.

The House of Delegates voted unanimously as favoring an amendment which would limit the taxing powers of the government.

The By-Laws relating to delegates were amended so that in brief the procedure is as follows: The apportionment of delegates is now decided on January 1, on the basis of one delegate for each 1000 dues-paying members of the A.M.A. In addition, the following was added: "Any delegate or alternate who was elected or appointed in accordance with these By-Laws and who at the time of apportionment has not completed the term for which he was duly elected or appointed shall be permitted to complete such term as delegate or alternate."

Howard W. Blakeslee, Science Editor for the Associated Press, was posthumously awarded a citation for distinguished service.

The following officers were elected:

President-Elect: Dr. Edward J. McCormick, Toledo, Ohio.

Vice President: Dr. Leo F. Schiff, Plattsburg, N. Y.

Secretary: Dr. George F. Lull, Chicago.

Treasurer: Dr. J. J. Moore, Chicago.

Speaker, House of Delegates: Dr. James R. Reuling, Bayside, N. Y.

Vice Speaker, House of Delegates: Dr. E. Vincent Askey, Los Angeles.

Members, Board of Trustees: Dr. Dwight H. Murray, Napa, Calif.; Dr. James R. McVay, Kansas City, Mo.

Member, Judicial Council: Dr. Homer L. Pearson, Jr., Miami, Fla.

Member, Council on Scientific Assembly: Dr. Stanley P. Reimann, Philadelphia.

Members, Council on Medical Education and Hospitals: Dr. Herman G. Weiskotten, Skaneateles, N. Y.; Dr. John W. Cline, San Francisco; Dr. James M. Faulkner, Boston; Dr. Charles T. Stone, Sr., Galveston, Texas; Dr. Leland S. McKittrick, Boston.

Members, Council on Medical Service: Dr. Elmer L. Hess, Erie, Pa.; Dr. Carlton E. Wertz, Buffalo, N. Y.; Dr. James Q. Graves, Monroe, La.

Member, Council on Constitution and By-Laws: Dr. James Stevenson, Tulsa, Okla.

It was voted that the 1955 Annual Session be held in Atlantic City.

Respectfully submitted,

J. MORRISON HUTCHESON, M.D.

VINCENT W. ARCHER, M.D.

Delegates from Virginia

STANDING COMMITTEES

Publication

The composition of the Virginia Medical Monthly has remained essentially unchanged during the past year. A unique presentation was the medical map of historic Virginia published in the February issue.

At the next Council Meeting additional appropriations for the Monthly will be requested to permit enlargement of the scientific text since a significant backlog of papers exists. Furthermore, there is a constantly increasing circulation, which now numbers 2750 copies.

Because of the limited space available in the Monthly, contributors should be encouraged to restrict scientific papers to a maximum length of eight pages in the Journal.

WYNDHAM B. BLANTON
A. BROWNLEY HODGES
LEWIS H. BOSHER, JR.
M. PIERCE RUCKER, *Chairman*

Scientific Exhibits

Thirty-one scientific exhibits have been accepted by your committee and these are listed in the August issue of the Monthly. We believe this is the largest number of exhibits displayed at any of our annual meetings and was made possible by more available space at the Jefferson Hotel. Most of the exhibits are by individual members of the Society though there are some from affiliated medical organizations. We hope that the members of the Society will show their appreciation to the exhibitors by visiting and studying their exhibits as we feel this is a very important feature of any medical meeting.

HUNTER B. FRISCHKORN
VINCENT W. ARCHER
EUGENE L. LOWENBERG, *Chairman*

Department of Clinical and Medical Education

Your Committee met in the office of the Society on November 15th, 1951, at the call of your Chairman. Those present, Drs. Joseph W. Chinn, Mary Elizabeth Johnston, Kinloch Nelson, Mack I. Shanholtz, Mr. George Zehmer of the Cancer Society, and C. L. Harrell, Chairman.

Dr. Nelson, Secretary of the Committee, made a very extensive discussion of the past work of the Committee, and suggestions for the future. A detailed report is in the file in the office.

Dr. Nelson reported on the Fall meeting, which was a part of the 1951 program. On September 26, 1951, a joint meeting of the Northern Neck and Mid-Tidewater Medical Society was put on in Tappahannock, at which fifteen doctors were present. The cost of this meeting was \$150.00, of which the local societies contributed \$30.00.

On October 25, 1951, a clinical session was held at Grundy before the Buchanan-Dickenson Medical Society, which was attended by the entire membership. The following day, the same speakers appeared before the Tazewell County Medical Society, which also was well attended. The total expense of these two meetings was \$270.00, of which the local societies contributed \$142.00. The expense of these three meetings was paid out of the appropriation made for 1952 program, as the report came in too late to be charged against the 1951 appropriation.

The first clinic session for 1952 was put on at Grundy on April 17th, a joint meeting of the Buchanan-Dickenson

and Tazewell Medical Societies; three speakers participated. This meeting was attended by eighty per cent of the available doctors from the Buchanan-Dickenson Society, but only four from Tazewell. The total cost of this meeting was \$463.49, of which the local societies contributed \$150.00.

On April 30, 1952, a joint meeting was conducted before the Northern Neck and Mid-Tidewater Medical Societies with twelve doctors attending. The total expense was \$150.00, of which \$32.00 was contributed by the local societies.

Though the attendance at these clinics was small, Dr. Nelson thinks they are worthy, as they usually reach doctors that are not able to attend clinics in the cities. However, it would be advisable to extend to more localities.

The Committee agreed that post-graduate efforts in the state should be coordinated with the two medical schools, The Medical Society of Virginia, the Health Department, and the various special societies.

It was stated the committee's goal should be a coordinated program, using the facilities of these groups, and covering the state with regular post-graduate training periods, preferably in localities where the practicing doctors can readily attend seminars, case demonstrations, etc.

In keeping with this policy, the committee worked with the Cancer Society in scheduling its activities in 1952, which were conducted by Dr. R. R. Spencer. Through May 22, ten clinics had been held with an attendance of 152. Dr. Spencer hopes to cover the entire state before the series of lectures are completed.

The Committee suggests that after the Cancer Society finishes its program, the Heart Society and Diabetic Society be requested to put on a statewide program under the sponsorship of The Medical Society of Virginia, but financed by the respective societies as did the Cancer Society.

We feel that the program put on by this committee is very valuable to the membership of the State Society and should be continued, not necessarily in a stereotyped form, but varied from time to time, at the discretion of each newly appointed committee. Dr. Mack Shanholtz submitted a copy of a two-day program on Chronic Diseases put on by the Medical Department of the University of Oklahoma. This copy has been placed in the office files for reference.

We recommend that \$1,000.00 be set up in the annual budget to subsidize this program. We also recommend that the name Department of Clinical and Medical Education be changed to "Post-Graduate Medical Education."

Respectfully submitted.

VERNON W. LIPPARD
KINLOCH NELSON
MACK I. SHANHOLTZ
MARY E. JOHNSTON
JOSEPH W. CHINN
C. L. HARRELL, *Chairman*

Membership

All members admitted to this Society this year through component societies are as follows:

- Dr. John Dean Adams, Clifton Forge
- Dr. Gayle Gardner Arnold, Richmond
- Dr. Wilbur James Baggs, Jr., Newport News
- Dr. Charles Lewis Baird, Farmville
- Dr. Earle McKenzie Bane, Lawrenceville
- Dr. William Harper Barney, Lynchburg
- Dr. Rudolph Vincent Basso, Imola, California
- Dr. George Kirby Brooks, Jr., Richmond
- Dr. Collinson Pierrepont Edwards Burgwyn, Norton
- Dr. Fay Ashton Carmines, Newport News
- Dr. George Joseph Carroll, Suffolk
- Dr. Edward Kent Carter, Richmond
- Dr. Clinton Beriah Chandler, Durham, N. C.
- Dr. Joseph William Chinn, Tappahannock
- Dr. Everett L. Coffey, Buchanan
- Dr. Harry Duffield Cox, Portsmouth
- Dr. Charles Lucian Crockett, Jr., Roanoke
- Dr. Robert Dils Crooks, Franklin
- Dr. Monford Daniel Custer, Jr., Winchester
- Dr. David Milton Dunville, Richmond
- Dr. Belle DeCormis Fears, Accomac
- Dr. Frederick Augustus Feddeman, Lexington
- Dr. Alto Edmond Feller, Charlottesville
- Dr. Dan John Feriozi, Arlington
- Dr. John Foster, Norfolk
- Dr. Daniel Gabriel, Pennington Gap
- Dr. Clifford Garland Gaddy, Danville
- Dr. Martin Edward Gallagher, Norfolk
- Dr. Herbert Harold Galston, Richmond
- Dr. William Everett Gibbons, Harman
- Dr. Count D. Gibson, Jr., Richmond
- Dr. James Burnett Gilbert, Alexandria
- Dr. William Wesley Gillespie, Parksley
- Dr. Matthew Christopher Glynn, Jr., Hilton Village
- Dr. John Titus Glick, Jr., Broadway
- Dr. Milton Goldin, Portsmouth
- Dr. Harold Goodman, Washington, D. C.
- Dr. Edwin Herman Gray, Herndon
- Dr. Mary Case Gray, Herndon
- Dr. Fleta A. Gregory, Portsmouth
- Dr. Theron Henry Haas, Radford
- Dr. Sidney Arthur Haber, Richmond
- Dr. William Walter Hargrave, Rustburg
- Dr. William Vanbrooks Harrison, Galax
- Dr. John George Klemm Harvey, Danville
- Dr. George Douglas Hayden, Richmond
- Dr. Thomas Bowles Hedrick, Buena Vista
- Dr. Russell Edward Herring, Jr., Crozet
- Dr. Charles Wenger Hertzler, Bergton
- Dr. Douglass Orville Hill, Winchester
- Dr. John Harrell Hill, Norfolk
- Dr. William John Hotchkiss, Broadway
- Dr. John Decator Hoyle, Alexandria
- Dr. John Melville Huff, Norfolk
- Dr. William Coolidge Humphries, Woodstock
- Dr. Robert Clarence Hunt, Falls Church
- Dr. Jeannette Morris Jarman, Hot Springs
- Dr. Edwin Pratt Jordan, Charlottesville
- Dr. Samuel Benjamin Judy, Clarksville
- Dr. Robert Aloysius Kelly, Charlottesville
- Dr. Arthur Abbott Kirk, Portsmouth
- Dr. William Irvin Knight, Jr., Colonial Beach
- Dr. Alter Laibstain, Norfolk
- Dr. Herbert Gaines Langford, Richmond
- Dr. Daniel Leavitt, Roanoke
- Dr. Willis Edward Lemon, Clifton Forge
- Dr. Augustine Warner Lewis, Aylett
- Dr. Mann Terrell Lowry, Beaver Dam
- Dr. Wallace Henry Malan, Dublin
- Dr. Lee Baldwin Martin, Arlington
- Dr. Carolyn Moore McCue, Richmond

- Dr. Joseph Tedford McFadden, Norfolk
- Dr. Thomas Alfred McGavin, Arlington
- Dr. Eugene Ernest Mihalyka, Eastville
- Dr. Charles Samuel Miller, Elkton
- Dr. David Herman Miller, Orange
- Dr. Hugh Kenneth Moir, Norfolk, Nebraska
- Dr. Robert Catchings Moore, Jr., Christiansburg
- Dr. John Sargent Morris, Jr., Lynchburg
- Dr. Robert Lord Morrison, Lynchburg
- Dr. Roscoe Searls Mosiman, Alexandria
- Dr. Christopher Joseph Murphy, Jr., Alexandria
- Dr. Esmond Douglas Vere Nicoll, Charlottesville
- Dr. Clyde Garvice O'Brien, Appomattox
- Dr. Joseph Treacy O'Hanlan, Waynesboro
- Dr. Victor Page Owen, Jarratt
- Dr. John William Painter, South Boston
- Dr. Herbert William Park, Fishersville
- Dr. Richard Quentin Penick, Harrisonburg
- Dr. Margaret Allen Pennington, Buckingham
- Dr. Nils Torston Peterson, Charlottesville
- Dr. Wendell James Pile, Williamsburg
- Dr. Joseph Lawson Platt, Lynchburg
- Dr. William Barrett Pope, Jr., Portsmouth
- Dr. John Fairman Preston, Jr., Radford
- Dr. Adrian Recinos, Jr., Falls Church
- Dr. Richard Courtney Reed, Norfolk
- Dr. Clifford Thurston Riddel, Bridgewater
- Dr. Ralph Sydney Riffenburgh, Vallejo, Calif.
- Dr. John Calhoun Risher, Lynchburg
- Dr. Charles Warner Robertson, Cape Charles
- Dr. James Mebane Robertson, Roanoke
- Dr. Macey Herschel Rosenthal, Lynchburg
- Dr. Robert A. Rounds, Falls Church
- Dr. Thomas Carroll Royer, Bayside
- Dr. John Edward Ryan, Falls Church
- Dr. William Laird Sager, Danville
- Dr. Angel E. Salazar, Chantilly
- Dr. Thomas Archer Saunders, South Hill
- Dr. Maurice Raphael Schlanger, Portsmouth
- Dr. Mack Irwin Shanholtz, Richmond
- Dr. Stephen Joseph Sheehy, Arlington
- Dr. Donald Shotton, Lynchburg
- Dr. Oscar Orton Smith, Jr., Marion
- Dr. George David Spence, Charlottesville
- Dr. William Price Spencer, Richmond
- Dr. Jennings Bryan Spinks, Galax
- Dr. Lawrence Jago Stetson, Suffolk
- Dr. William Conrad Stone, Roanoke
- Dr. Cary Grayson Suter, Charlottesville
- Dr. Isabel Taliaferro, Richmond
- Dr. Daniel Doak Talley, III, Richmond
- Dr. Michael Chester Tavenner, Norfolk
- Dr. George William Thoma, Jr., Richmond
- Dr. Genevieve June C. Thomas, Roanoke
- Dr. Thomas William Tusing, Vienna
- Dr. Edwin Booth Vaden, Lynchburg
- Dr. Clyde Whitley Vick, Jr., Petersburg
- Dr. William Fremont Wagner, Richmond
- *Dr. Robert Klaus Waller, Richmond
- Dr. William Thurman Watkins, Jr., Newport News
- Dr. Edmond Daniel Wells, Richlands
- Dr. Frederick Dashiell White, Roanoke
- Dr. Ann Hardy Williams, Blackstone
- Dr. Charles Lee Williams, Richmond
- Dr. Lester Arnauld Wilson, Jr., Charlottesville
- Dr. Henry Adolphus Wiseman, III, Danville
- Dr. Alfred Louis Wolfe, Roanoke
- Dr. Amelia Gardner Wood, Richmond
- Dr. Frances Edmonds Wood, Williamsburg
- Dr. John Cameron Wrye, Alexandria
- Dr. Jack Dunn Wycoff, Abingdon
- Dr. Charles Murray Wylie, Lexington
- Dr. John Julius Yaeger, Clifton Forge

*Died July 14, 1952

The names of deceased members will be presented to the Society at the Monday evening meeting.

Your committee has made a study of conditions in the State of Virginia similar to the one made the year before with the following findings:

Registered in Virginia as of July 1, 1951:	
Medicine and Surgery	2,772
Homeopathy	15
Total	2,787
Less those listed as living out of state and licensed in Virginia	60
Balance	2,727
Less colored doctors registered and living in Virginia	150
Balance	2,577
Members of State Medical Society exempt from payment of dues	221
Members of State Medical Society living in Virginia and paying dues	2,130
Total	2,351
Difference in the two above figures 2,577 and 2,351	226
Out-of-state members	186
Members of component societies who are not members of the State Society, approximately	190
White physicians licensed to practice in Virginia who are not members of component societies and are eligible for membership, approximately	81
Total number of licensed white physicians who are not members of The Medical Society of Virginia	271

Your committee takes pleasure in recommending for honorary membership our distinguished retiring president, Dr. John T. T. Hundley of Lynchburg.

HARRY C. BATES, JR., M.D.

GEORGE W. LEAVELL, M.D.

W. R. WHITMAN, SR., M.D., *Chairman*

Grievance

The Grievance Committee of The Medical Society of Virginia had an unusually quiet year, with only one grievance being brought to its attention.

In this particular case, the committee upheld the decision of the Grievance Committee of the component society concerned. The component committee had concluded that evidence submitted was not sufficient to sustain the charges of malpractice. No question of medical ethics was involved.

W. C. CAUDILL, M.D., *Chairman*

C. L. HARRELL, M.D.

GUY R. FISHER, M.D.

PIERCE M. RUCKER, M.D.

W. L. POWELL, M.D.

Finance

The financial report, including the budget for 1952-1953, will be presented to the Council and the House of Delegates at the annual meeting in Richmond on September 28.

HARRY J. WARTHEN, JR., *Chairman*

FRANK A. FARMER

WALTER A. PORTER

JAMES L. HAMNER, *Ex-officio*

Legislation

The report of this Committee will deal principally with proposed legislation affecting the medical profession which was presented to the 1952 General Assembly, and the enactment of statutes by the General Assembly which were of particular interest to members of the Society. These will be taken up in order. It was a matter of much satisfaction to the Committee, and also to the members of the Senate and the House of Delegates of Virginia, that no bills dealing with the practice of chiropractic and naturopathy were introduced during the session.

THE MEDICAL EXAMINER SYSTEM

The 1946 Act which created a system of scientific examination into the causes of suspicious deaths, and established the office of Chief Medical Examiner to supervise the operation of the plan, is rapidly becoming a model statute for other States, and has earned the approval of the leading national organizations interested in this field. However, when the bill was before the General Assembly six years ago it was found necessary to retain the designation "coroner" given the local investigator, a designation which is no longer descriptive of the functions and duties pertaining to the office. At the request of Dr. Mann, our very capable Chief Medical Examiner, a bill was prepared by our attorney substituting the term "medical examiner" for the term "coroner" in the Virginia statute, and this bill was introduced by your Chairman and his colleague in the Senate, Dr. Caudill, and was passed without opposition. An amendment was added by the House Committee authorizing the appointment of osteopaths as medical examiners, but this was eliminated in the Senate with the consent of the osteopaths. No other change was made in the existing law.

Under Code Sec. 52-11.1 the assistance and co-operation of the Chief Medical Examiner and his staff and laboratory were made available to the Department of State Police, and this statute has resulted in a large number of blood alcohol tests needed to convict drunken drivers being made by the Chief Medical Examiner. The section was amended to make this service available, in the discretion of the State Health Commissioner, to other law enforcement officers and agencies.

LICENSURE AND REGULATION OF PRACTICE

In November, 1951, the Council referred to this Committee for appropriate action a request by Dr. K. D. Graves, Secretary of the State Board of Medical Examiners, that the Legislative Committees of the Board and of

the Society, with the assistance of the attorney for the Society, consider the advisability of making certain changes in the statutes dealing with the admission of candidates to the examination given by the Board. In this connection the members of this Committee were strongly of the opinion that no substantial changes in the present regulatory plan with respect to sectarian medicine should be made, and that as long as the basic science statute prevents infiltration into our State of any substantial number of practitioners in this field it should be retained and if possible strengthened and safeguarded. Although certain members of both committees felt that some changes in the statute might be helpful, these were deferred for consideration at some future time.

The member of the Examining Board representing the chiropodists requested the assistance of this Committee in the preparation and passing of a number of bills, some of which were not approved by the Examining Board nor by this Committee. Some of these will doubtless be brought up in the 1954 session of the General Assembly, in which event they can be considered on their individual merits. The Committee did not feel that the scope of the practice of chiropodists should be enlarged or extended beyond what is permitted under present statutes.

This Committee worked closely with the Examining Board and its representatives in the preparation of a number of bills dealing with medical licensure, and these bills were later introduced into the General Assembly by members of this Committee and enacted into law. One of these dealt with the admission to examination of graduates of medical schools in foreign countries where inspection and grading of schools by the national associations referred to in the statute is not permitted. These schools of graduation of displaced physicians were not registered with nor approved by the State Board of Education, and their graduates could not legally be admitted to the examinations. This resulted in the suit brought by Dr. Hitrec in Floyd County in which the court, after hearing evidence that his school of graduation maintained standards equal to those of registered schools, ordered the Board to admit Dr. Hitrec to the examination. A bill was prepared, introduced in and piloted through both houses of the General Assembly authorizing the State Board of Medical Examiners in similar cases to consider evidence submitted by the candidate, or to make its own investigation, and determine if the school maintained equivalent standards to those required for registration. Under the statute as amended the Examining Board can now do what the court did in the case of Dr. Hitrec, and recourse to litigation will not be necessary. The bill as passed also clarifies certain ambiguous language as to the qualifications of candidates, and removes a provision that unintentionally prevented certain graduates of professional schools in Switzerland from taking the examination.

In 1948 a statute was enacted limiting to three years the period during which an unlicensed interne or resident could practice in Virginia hospitals. This statute was

amended in 1952 so as to permit the Examining Board to extend the period in instances where the practitioner is taking a special course in an approved hospital, such extension not to exceed two years. This bill was prepared at the request of the Examining Board and was sponsored by members of this Committee.

THE TAYLOR BILL

One of the most controversial issues in the 1952 session arose in connection with House Bill 722 which was introduced by Mr. S. B. Carter of Botetourt County, with Drs. Witten, Moxley and Greer (D.D.S.) as co-patrons. The bill was drawn in general terms so as to avoid constitutional objections, but only one man, Dr. Smith Taylor, of Illinois, could possibly qualify under it. Dr. Taylor was a graduate of a substandard medical school in Chicago, and for this reason was not eligible to take the Virginia examination which is given only to graduates of Grade A medical schools. The principal arguments for the bill were (1) that several years ago other members of this man's graduating class had been permitted to take the examinations while he was serving in the armed forces, (2) that the applicant had already had five years of medical practice elsewhere, (3) that his wife was a native Virginian and they desired to live in this State, and (4) that he would locate in Eagle Rock, Botetourt County, where a resident physician was badly needed to care for the sick. This Committee took the position that Dr. Taylor should not be permitted to take the examination because (1) it would discriminate against Virginia medical schools to open the field of practice in our State to men whose qualifications do not measure up to those required for graduation in our local medical colleges, (2) that to lower our standards for admission would endanger our reciprocity arrangements with other States maintaining similar high standards, (3) that the passage of the bill would establish a precedent and result in a deluge of similar bills at future sessions of the General Assembly under which many of the hundreds of unlicensed graduates of substandard schools would attempt to obtain admission to the Virginia examinations, (4) that there was no pressing need for another physician in Botetourt County, and (5) that the bill as drawn was a purely local bill and in violation of the express language of the Constitution of Virginia. Every effort was made to defeat the bill in the Senate committee, but after a hearing it was reported out after an amendment had been added requiring the Board of Examiners to revoke any license granted the applicant in the event he should fail to practice for five years in Botetourt County. The bill then went to the floor of the Senate where it was debated at length on the last day of the Session, the Chairman of this Committee and his colleague, Dr. Caudill, speaking at length in opposition to its enactment. However, the roll call showed a vote of 25 to 11 in favor of the bill so it is now the law unless and until it is declared unconstitutional by a competent court. Whether or not the Society should initiate any action to test the validity of the statute is a matter for further consideration.

Furthermore, there is always the possibility that because of the requirement that the first five years of practice shall be in Botetourt County, Dr. Taylor may decide to stay in Illinois.

OTHER LEGISLATION

A bill to define and regulate ophthalmic dispensing in Virginia was introduced in both houses, but did not get out of committee. The bill created a State Board of Opticians, with the usual powers and duties of examining boards in other fields, and granted certificates of registration without examination to persons practicing in Virginia for two years or more. The bill will doubtless be introduced again in 1954, and it may be wise for the Society to instruct this Committee as to its position with respect thereto. Late in the session a joint resolution was offered providing for a study by the Virginia Advisory Legislative Council of the advisability of regulating ophthalmic dispensing, but this resolution also died in committee. The former bill defining and regulating the practice of clinical psychology was not before the General Assembly this year.

Pursuant to a resolution adopted by the House of Delegates of the Society last year, a bill was prepared providing for the use of the letters "M. D." on automobile license plates of Virginia physicians. However, much opposition to the bill developed, particularly on the part of the Motor Vehicle Commission's staff, and for this reason the matter was not pressed. The principal objection is that other professions and organizations will also seek recognition, and that the plan will add greatly to the expense of manufacturing and distributing license plates. Perhaps an appropriate insignia for attachment to the license plates or to the automobile could be authorized and its use limited to licensed physicians.

There were many bills in the General Assembly dealing with the manufacture, distribution and sale of certain narcotic drugs, the general purpose being to place additional safeguards around the handling of such drugs, and to impose heavier penalties on violations of the regulatory statutes. The legislative members of the Committee followed these bills closely, and supported those which seemed to be meritorious. No substantial changes were made in the existing law.

CONCLUSION

Two years ago Dr. Caudill, Senator from the 19th District, was President of the Society, and in that capacity rendered invaluable assistance to the Committee on Legislation. During the past session of the General Assembly he served as a member of the Committee, and again his deep interest in medical legislation and his capacity for leadership in the Senate contributed greatly to the success of our activities at the 1952 Session. We are also grateful to the members of the General Assembly who gave freely of their time and thought in the study of our problems, and to our lay friends and members of the profession throughout the State who supported us in our efforts. We bespeak your continued and increasing in-

terest in these legislative matters which are of vital importance to us and to the citizens of our State.

Respectfully submitted,

THE COMMITTEE ON LEGISLATION.

JAMES D. HAGOOD, M.D., *Chairman*

W. C. CAUDILL, M.D.

CHARLES H. HENDERSON, M.D.

DEAN B. COLE, M.D.

CARRINGTON WILLIAMS, M.D.

J. EDWIN WOOD, M.D.

FRANK A. FARMER, M.D.

W. S. FITCHETT, M.D.

WALTER P. ADAMS, M.D.

Ethics

The Ethics Committee reports that no matters have been referred to it during this year nor has any meeting of this committee been held.

Respectfully submitted,

HOLCOMBE H. HURT, M.D., *Chairman*

K. D. GRAVES, M.D.

M. H. HARRIS, M.D.

Judicial

The Judicial Committee has had several matters referred to it this year. The following proposals have been reviewed and were found to be in proper order for deliberation and disposal by the House of Delegates during the forthcoming annual meeting of the Medical Society of Virginia.

AMEND ARTICLE VIII—Standing Committees of the Constitution of October 1951, by deleting in (3) the words, "Department of Clinical and Medical Education," and inserting in lieu thereof, "Postgraduate Medical Education."

AMEND ARTICLE IX—Standing Committees of the By-Laws of October 1951, by deleting in 3 the words, "Department of Clinical and Medical Education," and inserting in lieu thereof, "Postgraduate Medical Education."

AMEND ARTICLE IX OF THE BY-LAWS so that the first sentence of the second paragraph shall read, "Each of these Committees, with the exception of the Committees on Postgraduate Medical Education, Medical Service, Legislation, Public Relations, Grievance and Finance, shall consist of three members, whose terms of office shall be for three years."

AMEND ARTICLE IX OF THE BY-LAWS by deleting in the third paragraph the words, "Department of Clinical and Medical Education," and inserting in lieu thereof, "Committee on Postgraduate Medical Education."

AMEND ARTICLE IX, SECTION 3 OF THE BY-LAWS by deleting in the title the words, "Department of Clinical and Medical Education," and inserting in lieu thereof, "Postgraduate Medical Education"; further amend Section 3 of Article IX of the By-Laws by deleting the words, "Department of Clinical and Medical Education," and inserting in lieu thereof, "Committee on Postgraduate Medical Education."

The above proposals would amend the Constitution and

By-Laws by renaming the "Department of Clinical and Medical Education," the "Committee on Postgraduate Medical Education." The above amendments would not alter the function of the Department of Clinical and Medical Education.

AMEND ARTICLE IV OF THE CONSTITUTION of October 1951, by deleting in the first sentence the word "White" so that the first sentence shall read, "Physicians in Virginia, not practicing sectarian medicine, members of a component society, are eligible to active membership."

The above proposal would amend the Constitution by abolishing the membership requirement regarding race.

CONSTITUTION

ARTICLE III—COMPONENT SOCIETIES

In lieu of the first sentence insert the following: "A component society shall be made up of physicians from one or more political sub-divisions of the State of Virginia. As used in this Constitution and in the By-Laws the term 'political subdivision' means a county or city of the State."

BY-LAWS

ARTICLE I—MEMBERSHIP IN THE SOCIETY

Change the second paragraph of Section 1 as follows: "Members in good standing in component societies are eligible for active membership in the Society. Physicians in good standing in any county or city in which there is no component society, provided they meet all the requirements of the State Society and have the endorsement of the members of the State Society from such county or city, are also eligible for such membership."

ARTICLE III—COMPONENT SOCIETIES

Change Section 2, 3 and 7 as follows:

Section 2—"There shall be only one component society in a county or city, and no component society may be established in a territorial area included in the jurisdiction of another component society. When a component society qualifies, it may obtain a charter upon application to the Executive Secretary-Treasurer, which charter shall be signed by the President and the Executive Secretary-Treasurer. Should it seem desirable that a county or city in a congressional district unite with one or more political subdivisions in an adjoining congressional district, as a component society, such action may be taken provided it be sanctioned by the councilor from each of such districts. Such component society shall be deemed to be in the jurisdiction of the councilor of the district in which the majority of the membership resides."

Section 3—"A component society consisting of more than one political subdivision may, upon petition to the Council, be divided and given separate charters if the Council is of the opinion that such division is in the interest of medical organization."

Section 7—"A member may join a more convenient component society in an adjoining political subdivision if the component society having jurisdiction of the county or city in which the member resides gives consent."

ARTICLE V—HOUSE OF DELEGATES

Change Section 2 as follows: After the word "county" in the first sentence insert "and city."

ARTICLE VIII—COUNCIL

Delete Section 7 and insert in lieu thereof, "Each Councilor District shall have a District Council composed of members from each county and city, the State Councilor of that district to act as chairman. The purpose of these District Councils is to bring the individual physicians of the counties and cities of the district into closer contact with the Society and its needs. Members of the District Council, representing local medical societies, shall be elected by the membership of the respective societies prior to September 30, and members for counties and cities in which there is no society shall be appointed by the Councilor for their Congressional District, prior to that date. The term of office for members of the District Council shall be one year, ending September 30. They shall be eligible to succeed themselves and their duties shall be to work with and under the direction of the Councilor for the District."

ARTICLE IX—STANDING COMMITTEES

In Section 10, strike out the second sentence in the second paragraph and insert the following: "The committee shall have jurisdiction of all cases which are appealed from decisions of grievance committees of component societies. It shall also have jurisdiction of all cases of alleged grievances originating in areas in which there is no functioning component society, and in instances where no grievance committee of a component society has been appointed, or if appointed fails to function."

Amend the fourth paragraph of Article IX so that it shall read: "The Committee on Medical Service shall consist of one member from each Congressional District whose term of office shall be for two years, five to be appointed annually by the incoming President, and the Committee on Legislation of nine members, three to be appointed annually by the incoming President." (The above proposal is necessitated by the addition of a new Congressional District in Virginia.)

The purpose of these amendments is to permit the organization of component societies in cities as well as in counties. In addition, it is proposed that the language of Article VIII, Section 7 be reinstated as it appeared in the By-Laws of October 1950. The purpose of this change is to insure that there will be at least one member of the District Council from each county in which there are physicians.

Respectfully submitted,

RICHARD P. BELL, JR., M.D.

HUGH H. TROUT, JR., M.D.

J. MORRISON HUTCHESON, M.D., *Chairman*

Public Relations

1952 might well be referred to as a year of orientation in Public Relations. Certainly, a re-formulation of the program has been and still is underway.

However, several projects have been advanced and

completed during this period, and many others are under advisement.

The committee, realizing that real PR begins at home, has strongly urged that a public relations committee be formed in every component society. We regret to report that the response has been disappointing indeed, with less than half of the societies appointing public relations committees.

A real effort has been made to keep the membership informed. In this connection, more public relations material and information has been sent to physicians and member societies than in any comparable period in the history of The Medical Society of Virginia.

CURRENT CURRENTS, the PR Newsletter of the Society, has been mailed at six week intervals. Inserts of particular significance have been included from time to time.

In an effort to better advise the component medical societies regarding the establishment of night and emergency call systems, special kits were assembled and mailed to each society. At least two emergency call systems have been placed in operation this year.

An exhibit to be used in connection with the annual state-wide Public Relations Conference was completed in December and shown four times during the year.

Realizing that we have too long neglected the radio as a means of conveying our message to the public, the Public Relations Committee undertook the promotion of a series of seven programs entitled "Meet Your Doctor". The programs were arranged and presented with the cooperation of Richmond's 50,000 watt station WRVA. The series has been well received, and right now is being broadcast by stations in other areas of the state.

A concentrated effort has been made to promote the A.M.A. plaque "To All My Patients". The Committee believes that this little plaque will go a long way toward breaking down barriers between physicians and patients without embarrassment to either. Virginia, incidentally, ranks well up among the states in total sales.

In cooperation with the State Department of Health and one of the nation's larger insurance companies, the Public Relations Committee promoted the showing in Virginia theatres of an educational film short entitled "Cheers For Chubby". The State Office has received many letters from theatre managers expressing their desire to show the film. Through the courtesy of the Neighborhood Theatre Organization, the short was shown in five Richmond theatres.

More and more, the PR spotlight is focusing on medical office personnel — the secretary — the receptionist — the nurse. A special series of bulletins has been directed at this group, and a full PR course for their benefit is ready to be offered in any part of the state.

Once again, the Annual Public Relations Conference was one of the year's highlights. The Conference was held at Richmond's Hotel John Marshall on April 10, and was attended by some seventy members of the Society. Woven around the theme "Let's Step Up Our Public Relations" the program featured outstanding speakers, a

luncheon address by Virginia's Lieutenant Governor, and two interesting panel discussions.

When the Woman's Auxiliary of the Norfolk County Medical Society held their Norfolk Health Festival, the Public Relations Committee took the opportunity to sponsor an exhibit on obesity.

In this connection, arrangements were also made to sponsor such an exhibit at the Atlantic Rural Exposition in Richmond and also at the Annual Meeting of the Society.

In keeping with our announced intention to work with other groups whose interests are similar to our own, the Director of Public Relations met several times with representatives of the State Farm Bureau, the Virginia Manufacturers' Association, the Retail Merchants Association, the Association of Stock Exchange Firms, the Bankers' Association, and the State Bar Association. These organizations are interested in maintaining America's free enterprise system, and are opposed to governmental efforts to socialize all industry.

Every effort has been made by the Public Relations Committee to stimulate interest in voting in this year's crucial elections. In this connection, special "Get Out The Vote" kits were made up and sent each component society with suggestions as to their use.

Your Committee has been vitally interested in the betterment of doctor-press-radio relations, and hopes that other component societies will follow the lead of the Richmond Academy of Medicine which has done much to improve its relations with the press.

As your Committee looks back over the year's activities, it can see that a stepping stone has been laid, leading to what it hopes will be an increasingly effective public relations program.

A good public relations program should be designed and executed by the doctors themselves. However, this is not always possible, and the busy practitioner finds himself unable to give the necessary time to carry out the details of the program. For this reason we have a Public Relations Director and other assistance in the headquarters office. Your Committee is deeply indebted to the interest, efficiency and initiative displayed by Director Bob Howard and his associates during the past year.

JOHN W. DAVIS, JR., M.D.

GEORGE A. DUNCAN, M.D.

JOHN B. LEARY, M.D.

HENRY B. MULHOLLAND, M.D.

BENJAMIN W. RAWLES, JR., M.D.

JAMES P. KING, M.D., *Chairman*

Medical Service

The Medical Service Committee of The Medical Society of Virginia has met on two occasions. Complete minutes of each of these meetings have been distributed to the component societies of The Medical Society of Virginia and therefore this annual report will be confined primarily to the specific recommendations of the sub-committees which have carried on the bulk of the work of the committee. The details of these sub-com-

mittees and their responsibilities have been covered in previous reports so that no further mention will be made of them at this time.

1. *Pre-paid Hospital Insurance Sub-Committee*—Problems instant to the affairs of this sub-committee have occupied a great deal of the attention of the committee as a whole. The brochure for distribution to the members of The Medical Society of Virginia to guide patients in the selection of pre-pay hospital and health insurance plans has been completed and is ready for printing. The desire to obtain a state-wide program has been studied. Meetings have been held with the Health Insurance Council headed by Mr. James Andrews of New York City. It is hoped as a result of these meetings it will be possible to evolve a schedule of surgical and medical fees on a state-wide basis. The committee felt that the preparation of such a schedule of fees should not be the responsibility of this group but that a group should be selected made up of participating physicians in the Richmond Medical Service Plan and in Surgical Care Incorporated which involves southwest Virginia physicians. Therefore, the Chairman of the Medical Service Committee has been instructed to seek a meeting of representatives from these groups in the hope that such a fee schedule may be prepared on an acceptable basis.

2. *Rural Health Sub-Committee*—The members of the sub-committee on Rural Health representing the areas of Louisa, Smithfield, Farmville, Berryville, and Rocky Mount met in June. The members had been previously informed of the history, purpose, and scope of the National Committee on Rural Health.

It was the opinion of the local committee that obvious progress had been made in construction facilities throughout Virginia for the care of the rural population. It was also their opinion that specific rural health problems were minimal. Furthermore the solution to these problems existed at the present time, and could be solved through the available assistance and direction of agencies presently working with the farmer. Simply stated it is a matter of educating the farm people as to what they need, how and where to obtain the answer, and of channeling the information to them.

The committee recommends the following program for your consideration and action: (1) That a clearing-house organization at the state level be set up consisting of members of farm agencies and of members of the sub-committee on Rural Health. Such an organization would serve the purpose of a two-way channel of information between physicians and rural population, and would also avoid the overlapping and reduplication of effort now present among the different agencies working with the farmer. (2) That manuals containing information of health facilities available at county levels be printed for distribution in the local areas.

3. *Chronically Ill Committee*—The Sub-Committee on the Chronically Ill held a meeting in Richmond. Dr. Malcolm Harris served as acting chairman of this sub-committee. It is understood that one-fourth of our hospital patients are comprised of the chronically ill and that

two-thirds of all deaths occur among this group. As the life expectancy increases the number of chronically ill increase proportionately. Virginia is fortunate in having a pioneer facility for the care of the chronically ill available for study in the Patrick Henry Hospital which is located near Williamsburg. This hospital has filled the need successfully and should be studied by all localities faced with the problem of adequate care for the chronically ill. The committee recommends that the membership of The Medical Society of Virginia be surveyed in the endeavor to determine the number of chronically ill in the state and further that an effort be made to acquaint the membership of The Medical Society of Virginia with the work of the Patrick Henry Hospital in the belief that localities can band themselves together and organize similar community hospital projects.

4. *Medically Indigent Committee*—Dr. H. B. Mulholland is chairman of the committee on the Medically Indigent and is also serving on a similar committee of the American Medical Association. The AMA is preparing an analysis of the indigent care programs which will be released in June of 1953. The specific recommendations relative to the care of the medically indigent in the State of Virginia will be available from the sub-committee as a supplemental report.

5. *Child Health Committee*—Dr. Nowell Nelms has served as acting chairman of this sub-committee. At the present time no report is available for inclusion but a supplemental report is anticipated.

6. *Industrial Health Committee*—The Committee on Industrial Health is chairmaned by Dr. Charles Savage. As a result of the increasing industrialization of the state of Virginia the sub-committee feels that it is desirable that The Medical Society of Virginia recommend that a full time Medical Director be obtained as the director of Industrial Medicine under the State Board of Health in the State of Virginia. This recommendation is concurred in by the Health Department. Rehabilitation is an imperative part of Industrial Health and the sub-committee is cooperating with a special committee on rehabilitation working out of the Woodrow Wilson General Hospital near Waynesboro. Information relative to these programs will be made available to interested physicians. The sub-committee recommends that a panel be established in each local medical society to advise employers how best to proceed in the event of problems with compensation cases. The committee also recommends that a library be maintained at the headquarters of the medical society on problems related to industrial health and that this information will be made available to those interested in obtaining it. Contact should be maintained with the State Chamber of Commerce and the Virginia Manufacturers Association in furthering the solution of problems instant to industrialization. A special conference has been arranged by the Council on Medical Service of the American Medical Association concerned with the medical program of the United Miners Welfare and Assistance Fund. This conference will be attended by representatives of The Medical Society of Virginia

and of the Committee on Medical Service and information relative to it will be available as a supplemental report.

7. Health Councils—The sub-committee on Health Councils is headed by Dr. Snowden Hall. It is the recommendation of this sub-committee that The Medical Society of Virginia endeavor to encourage the formation of Health Councils by all means at its disposal as it has recommended in the past. From the practical standpoint however, it has found that many communities do not have sufficient interest to warrant the effort in the establishment of Health Councils. The existence of specific health problems seems to be pre-requisite to the formation of active worthwhile health councils. The sub-committee seems to feel that the absence of greater interest in the formation of health councils on a local level is evidence of the lack of problems relative to the community health. The educational effort of physicians in the area to point out to the citizens problems concerning them is to be encouraged and it is believed that as this is done greater interest may be obtained in the formation of formal health councils.

8. Veterans Care—The committee as a whole considered the problem of Veteran Care in the state. It felt that the present program of the Veterans Administration regarding the care of veterans has many shortcomings. The inclusion of non-service connected disability is considered a specific abuse and the committee recommends that the Medical Society use its influence to encourage the Veterans Administration to desist from the hospitalization of non-service connected disabilities except in those bona-fied instances where real hardship would result to the veteran if hospitalization was not made available. Some possibility for the treatment of service connected disability by the family physician of the veteran on a broader basis should be encouraged. Further the annual contract between the Veterans Administration and The Medical Society of Virginia is worthy of closer study. Since it was originally effected in 1947 it has not been re-negotiated. Information is available which leads us to believe that The Medical Society of Virginia has not achieved as lucrative a contract to its members as those generally effected by other medical societies. It is therefore recommended that a specific committee be appointed annually to re-negotiate this contract with the Veterans Administration in order that the welfare of the membership of The Medical Society of Virginia may be adequately safeguarded.

The Medical Service Committee has been asked to consider a group Health and Accident Insurance Plan which has been presented to The Medical Society of Virginia by the Continental Casualty Company. The committee feels that the plan is excellent but that it requires detailed study which this committee has not had time to give it. Therefore, it recommends that a special committee be appointed by council to investigate the desirability of sponsorship of such a plan and the benefits that might be obtained from several plans that would be available.

After this information is obtained a specific recommendation would be in order.

RUSSELL V. BUXTON
WALTER B. MARTIN
HAROLD W. MILLER
WILLIAM R. PRETLOW
JAMES P. WILLIAMS
JOHN G. GRAZIANI
CHARLES L. SAVAGE
SNOWDEN C. HALL
JOHN O. BOYD, JR., *Chairman*

SPECIAL COMMITTEES

Advisory of Ladies Auxiliary

"The committee has no specific report except upon several occasions it has acted in an advisory capacity on minor questions brought up by Mrs. Farber, the President of the Auxiliary."

FLETCHER J. WRIGHT, JR., M.D., *Chairman*

Cancer

For the year October, 1951 - October, 1952, the Cancer Committee extended re-certification to the following old Tumor Clinics:

Chesapeake and Ohio Hospital

Tumor Clinic ----- Clifton Forge

Diagnostic Tumor Clinic ----- Norfolk

Eastern Shore of Virginia Tumor Clinic ----- Nassawadox

Jefferson Hospital Tumor Clinic ----- Roanoke

King's Mountain Memorial Hospital

Tumor Clinic ----- Bristol

Lynchburg Tumor Clinic ----- Lynchburg

McCluer Tumor Clinic ----- Alexandria

McIntire Tumor Clinic ----- University of Virginia

Medical College of Virginia Tumor

Clinic ----- Richmond

Memorial Hospital Tumor Clinic ----- Danville

Tri-County Tumor Clinic ----- Richlands

Also, a new clinic, the Memorial and Crippled Children's Hospital Tumor Clinic, has been organized at Roanoke under the chairmanship of Dr. J. Rowland Pearsall. It has been tentatively approved, pending inspection by the American College of Surgeons.

The Committee has recommended to all the Clinics that a follow-up service be offered for private as well as non-private patients.

The Cancer Bulletin series in the Virginia Medical Monthly has been continued during the past year.

Respectfully submitted,

GEORGE COOPER, JR., M.D.

Chairman, Cancer Committee

Child Welfare

The Child Welfare Committee has had two formal meetings, the first in March 1952 at Williamsburg, Virginia and the second in May 1952 at Charlottesville, Virginia. In addition, much exchange of ideas has transpired through the mails.

Because accidents have now become one of the greatest hazards of childhood, a good deal of discussion was

centered on this problem. The American Academy of Pediatrics, through its Committee on Accident Prevention, has approved a brochure called "Safety Vaccine" which has been published and made available without charge to the various state committees. The Mead Johnson Company has consented to furnish the envelopes and address them to physicians interested in children. The only expense incurred by the Child Welfare Committee would be the cost of postage. Your Committee, after examining the brochure, thought it wise to go through with this plan, and the money assigned to this Committee by The Medical Society of Virginia was used for this purpose. The brochures have been mailed.

Life expectancy has been increased principally by saving the lives of babies. The death of infants under one year was 75 per 1000 live births in 1924. Twenty-five years later it was 38 per 1000 live births. In 1950 there were 1,928 deaths from all causes under one month of age. One thousand one hundred and twenty-four (1,124) of these were in premature babies.

The Committee on Child Welfare of The Medical Society of Virginia would like:

1. To make a study of the outstanding etiological factor in infant mortality;
2. Visit all those who may have pertinent information in regard to premature infants born at home and dying within the first months of life;
3. Submit these findings to the Committee on Child Welfare for review and final diagnosis;
4. Publish cases of particular interest from time to time in the *Virginia Medical Monthly*.

The Committee has consulted with members of the State Department of Health and we have assurance that they will cooperate in this endeavor.

Your Committee would like for the House of Delegates to approve the above suggestions in order that intelligent plans can be outlined for improvement of premature mortality. In reviewing the reports of previous Child Welfare Committees we find this problem has been touched on frequently, but no action has been taken; therefore we request that the House of Delegates make a stand either for or against the plan as outlined.

The various baby pamphlets which have been put out by the State Health Department are greatly outdated. The advisability of making available to the lower economic group a pamphlet to help them care for their babies has been discussed in detail. Through the cooperation of the State Department of Health, a very simple but adequate pamphlet on baby care has been prepared. After much discussion on the pros and cons of such a pamphlet, the Committee approved the pamphlet, and it will be used by the Health Department, particularly by its clinic clientele. It will be available for use by any doctor in the state.

The problem of pre-school examinations was also discussed in detail. It was freely admitted by all the Committee members that the so-called screen examinations as practiced widely now are of very little value. At the present time the advisability of setting up adequately

staffed preschool clinics under the auspices of the State Health Department but run by local physicians is being considered. It is strongly felt by the Committee that this is advisable for the medically indigent patients, but extreme care should be exercised to be assured that children of families able to pay for preschool examination should not be allowed to attend these clinics. The Committee took no action on this problem and feels more discussion is necessary after detailed plans have been formulated.

Respectfully submitted,

McLEMORE BIRDSONG, M.D., *Chairman*

JOHN M. BISHOP, M.D.

C. B. HUGHES, M.D.

WILLIAM E. CHAPIN, M.D.

EDWIN KENDIG, JR., M.D.

EDWIN A. HARPER, M.D.

C. C. POWEL, M.D.

Cerebral Palsy

The highlight in the quest for a solution of the cerebral palsy problem in the State of Virginia in the past year was the Conference on Crippled Children held at the request of the Nemours Foundation, Wilmington, Delaware, and sponsored by the Virginia Council on Health and Medical Care. This conference was held in Richmond at the Medical College of Virginia on September 27-28, 1951.

Considerable time was devoted to the problem of cerebral palsy. It was pointed out that parents have become better educated to the fact that something can be done for their children, that the affliction of cerebral palsy is not something to be hidden or be ashamed of, and that it is part of their obligation as members of society to take an active part in contributing toward obtaining what can be done for these children. The interest and demand of the parents of these children has lent a great impetus to the efforts of the medical profession and those of fund-raising lay societies to further this goal.

It was pointed out that there are about 175,000 afflicted children of which about 75 percent are educable. Of the seven children for 100,000 population born with cerebral palsy each year, about one dies before the age of six, two are intellectually deficient and need institutional care, and four are intellectually normal and should have educational opportunities. It was pointed out that the need for an adequate program included a good system of case finding, diagnostic and treatment centers, special services in public day schools, hospital schools for the more handicapped children, home visiting teachers for home bound children, institutional care for mentally deficient children.

On the second day of the conference, special discussion groups met to consider these problems of specific parts of the crippled children's program. One such group was devoted to cerebral palsy. Medical and other personnel interested in cerebral palsy from all parts of the state were represented. It was in the main felt by this group that the chief weaknesses of the present program were lack of a systematic case-finding machinery; still inadequate appreciation by professional and lay groups alike concerning the potentialities of treatment of the cerebral

palsied and lack of knowledge of this group of the facilities already available for handling such patients; shortage of personnel with specialized training in diagnosis, mental and psychological testing, special education, physical, occupational and speech therapy; lack of educational opportunities and facilities for training of specialized personnel; inadequate facilities for appropriate care of such cases; insufficient funds to permit utilization of already existent facilities.

In April, 1952, the Coordinating Committee and Advisory Committee on Crippled Children's Services of the Virginia Council on Health and Medical Care and the Cerebral Palsy Group held a meeting at the Medical College of Virginia. At this meeting, reports were given on the Norfolk Cerebral Palsy Center by Dr. John Vann and the Arlington Health Center, Arlington, Virginia by Dr. Allen M. Ferry, and on the Cerebral Palsy Center in Harrisonburg, Virginia by Dr. Charles C. Powel, and on the Cerebral Palsy Center at the Medical College of Virginia by Dr. Walter J. Lee, from the Portsmouth Center by Dr. George G. Hollins, Jr., and on the Roanoke Program by Dr. Roy M. Hoover of Roanoke, Virginia. The need for a consulting center where special problems in diagnosis and treatment could be attacked was emphasized with the feeling being that such a center should be at the Medical College of Virginia or at the University of Virginia, or both.

The crux of the problem at the present time seems to be that we must emphasize the fact among parents, general practitioners and pediatricians that for the majority of the cases something can be done and that there are facilities, though still limited, for doing this work. A more aggressive approach to case finding must be promoted by our group, including schools, public health nurses, doctors, parents, etc. Further efforts must be made to increase the facilities for treatment and education of parents for treatment locally; that more educational facilities of special variety must be developed; more special recreational facilities must be made; better facilities for diagnosis and treatment of convulsive complications; greater efforts put forth for vocational rehabilitation.

ALLEN M. FERRY, M.D.
for O. ANDERSON ENGH, M.D.

Venereal Disease Control

The Venereal Disease Control Committee of The Medical Society of Virginia met in Richmond on two occasions during the last fiscal year. The following projects were decided upon:

1. Treatment schedules for the various phases of syphilis and for the other venereal diseases were revised according to the most acceptable present day concepts. Copies of these treatment schedules will be distributed to all physicians throughout the State through the Virginia State Department of Health.
2. The Committee recognized that the most urgent message relating to venereal disease today for phy-

sicians is an understanding of the value of the quantitative tests in diagnosis and treatment control. Therefore, a three panel exhibit was devised by the Committee to be presented on this subject at the State Medical Society meeting this fall. Members of the Committee will be in constant attendance at the exhibit for answering any questions which might arise.

A summary "give-away" sheet has been printed for distribution at the meeting, listing the causes of non-specific serologic tests and methods for evaluating these tests.

3. The Committee approved a recommendation of the State Health Department that copies of all positive and doubtful serologic tests for syphilis submitted by private physicians and hospitals and processed in the central laboratory of the State Health Department will be sent to the health officer or the head of the bureau of venereal diseases of the city or county from which such reports have been received. The health officer will contact the physician in order to obtain information as to the final disposition of the case and to offer the services of the Health Department for any contact interviewing or follow-up which may be desired.

Respectfully submitted,

HARRY PARISER, M.D., *Chairman*

To Confer with the State Board of Nurse Examiners

The Committee was requested to study the advisability of having The Medical Society of Virginia aid in the conduct of a survey to determine nursing needs in Virginia. The survey would be made in cooperation with the Virginia Hospital Association and the Graduate Nurses Association.

After conferring with the State Board of Nurse Examiners and studying the reasons advised for such a survey, the Committee is of the opinion that the proposed survey is desirable, and recommends that a portion of the cost, not to exceed \$500, be assumed by the Society.

The Committee also feels that such a survey should be made by a source other than a governmental agency, and recommends that no funds be turned over to the Federal Security Agency for this purpose.

RUSSELL V. BUXTON, *Chairman*
JAMES M. HABEL
M. H. HARRIS
FRANK JOHNS
EUGENE LOWENBURG
C. BRUCE MORTON, III
JOHN A. SHACKELFORD

Rehabilitation

The Committee on Rehabilitation, which also serves as Professional Advisory Committee for the Vocational Rehabilitation Service, State Department of Education, has been engaged in several activities during the past year.

Individual members representing various specialty fields, have provided consultative services to the personnel of the State Rehabilitation Agency on a continuing basis throughout the year. Professional advice has been given on individual cases involving medical problems, on the revision of and addition to the Professional Fee Schedule, and on the development of more effective medical rehabilitation services and facilities.

A Special Study Group on Rehabilitation of Industrial Accident Cases composed of professional and lay persons interested in the problem has been named by the Committee and has begun its study of the problem. Dr. George A. Duncan, representing the Rehabilitation Committee, is serving as Chairman of the Special Study Group. This Study Group plans to submit its findings and recommendations to the Rehabilitation Committee for its consideration upon completion of the study.

A regular meeting of the Rehabilitation Committee was held on March 30 at the John Marshall Hotel. In addition to regular Committee members, others present were R. N. Anderson, Director, Vocational Rehabilitation and Special Education, F. O. Birdsall, Supervisor, Woodrow Wilson Rehabilitation Center, Corbett Reedy, E. T. Justis and Floyd Armstrong of the Vocational Rehabilitation Service.

A report was presented to the Committee by Dr. Duncan and Mr. Justis on the results of the Physical Evaluation Clinics in Norfolk. These clinics are staffed by a team of medical specialists and representatives of the local Rehabilitation Office having as their primary purpose the cooperative physical evaluation of severely disabled cases, many of whom are on public assistance, to determine better their rehabilitation prospects. The results reported clearly indicated the marked advantages of this team approach technique and the Committee suggested that Physical Evaluation Units be organized in other areas in the State as needed.

Dr. Reno Porter led a discussion on recent developments in the field of cardio-vascular surgery in which he pointed out the implications for rehabilitation. He also described the development of the Medical-Surgical Cardio-Vascular Unit at the Medical College of Virginia Hospital.

The Committee plans to consider the report of the Special Study Group on Rehabilitation of Industrial Accident Cases at its next meeting, the date for which has not been scheduled as yet.

Respectfully Submitted,
 ROY M. HOOVER, M.D., *Chairman*
 GEORGE A. DUNCAN, M.D.
 J. R. BLALOCK, M.D.
 LEROY SMITH, M.D.
 FRANK B. STAFFORD, M.D.
 W. E. DICKERSON, M.D.
 G. S. FITZ-HUGH, M.D.
 FLETCHER J. WRIGHT, M.D.
 A. L. CARSON, JR., M.D.
 RENO PORTER, M.D.
 EDWARD E. HADDOCK, M.D.

Advisory Heart

For several years this committee has considered the advisability of the establishment of consultation heart clinics in several places in the State of Virginia. These clinics are to be held with the advice, help, and consent of the local physicians. They are to represent clinics for the indigent sick and are established particularly for those people who are unable to secure consultation on cardiovascular diseases because of their financial status. These clinics are supported by a grant administered through the State Health Department.

At the present time several clinics in the north, east, and southwest of the state will be organized under the direction of Dr. J. Edwin Wood and Dr. William Cawthon. Dr. Cawthon is to be a full-time worker in this field and will conduct two consultation clinics a week at the University of Virginia Hospital throughout the year. In addition to this he will see numerous consultations in the Out-Patient Department and on the wards of the University of Virginia Hospital and will attempt from time to time to arrange for other clinics in addition to the three basic ones noted above. He will be happy to correspond with any group of physicians who may be interested in having such a clinic established. With a view to the establishment of clinics of this type, Dr. Cawthon and Dr. Wood will be happy to hold preliminary lectures and clinics in various sections of the state on request.

The University of Virginia Hospital has kindly consented, through the good offices of Dr. Ackart, to furnish space in its own out-patient clinic where this work may be carried on from a central point. It is the hope of the Advisory Heart Committee of The Medical Society of Virginia that the physicians in each locality will take the main part in the establishment of these clinics, so that the whole project may be carried through on an educational level. It is not the intent of this program simply to provide that a number of patients be seen, but it is the desire of this committee to meet with physicians in various sections of this state to discuss the problems of cardiovascular disease and to be as helpful to them as possible.

This program officially started on July 1, 1952 and your committee hopes that the members of The Medical Society of Virginia will accept this attempt to offer a service in the study and treatment of cardiovascular diseases in the State of Virginia.

J. EDWIN WOOD, *Chairman*
 JULIAN R. BECKWITH
 PAUL D. CAMP
 R. EARLE GLENDY
 R. B. GRINNAN
 JOHN B. MCKEE
 J. FRANKLIN WADDILL

Polio

The Polio Committee was reappointed during the month of June, and there has been no called meeting to date.

It can be said, however, that the incidence of cases for the State of Virginia for 1951 was lower than 1950; 267 as compared to 1200.

It is too early for a prediction for the coming year, but it appears at the present time that there should be no large amount of cases for the State of Virginia for the year 1952.

LEE E. SUTTON, *Chairman*
R. B. BOWLES
ROBERT C. HOOD
E. A. HARPER
ROY M. HOOVER
ALBERT S. MCCOWN

Maternal Health

The members of the Committee on Maternal Health have been polled and the following information given:

The International Recommendations On Definitions Of Live Birth and Fetal Death will require a legislative change in order that all terminations of pregnancy be reported. This procedure has been advocated by members of the Virginia Obstetrical and Gynecological Society for a number of years.

The survey of maternal deaths has resulted in having reports made on 88 of the 95 cases. The reports vary from complete to one of very limited value due, in many instances, to whether prenatal care was adequate.

There were 1378 cases hospitalized under the MCH program for the fiscal year ending June 30, 1952, as compared to 1582 cases for the preceding year. The increased per diem cost of hospital care has limited approval of applications since there has not been an increase in appropriations.

There continues to be approximately 10% of the obstetric patients in the State given prenatal care in the MCH Clinics. This percentage has varied very little through the years.

The report from the Bureau of Vital Statistics shows for 1951:

Live births	86,771
Premature births	7,199
Still births	2,005
Maternal deaths	95
Maternal death rate per 1000 live births	1.1

GARRETT DALTON
E. S. GROSECLOSE
GEORGE S. HURT
JOHN R. KIGHT
W. L. McMANN
L. L. SHAMBURGER
H. H. WARE, JR.
W. N. THORNTON, JR.
EDWIN RUCKER, *Chairman*

Mental Hygiene

In 1951-1952, the Mental Hygiene Committee of The Medical Society of Virginia was continued as an entity by the incoming president of the Society, Dr. John T. T. Hundley. Dr. David C. Wilson, Chairman of the Com-

mittee, remained in that office. The majority of the previous members were reappointed and several new members added.

During the previous year, the Committee had made a survey of the mental hygiene needs in various areas of the state. The results of this survey were presented to the Society in the annual report of 1951.

The primary needs as formulated by the Committee this year are listed in order of their importance as follows:

I. *Statement of Mental Health Needs in the State:*

1. An increase in the understanding of mental health problems by practitioners throughout the state;
2. An increase in the ability of the physician to treat patients with such problems;
3. An increase in the number of psychiatrists and in the availability of psychiatrists as consultants to the general practitioner of medicine;
4. An increase in the number of beds available for psychiatric patients in general hospitals, especially in small towns and communities.

During the year 1951-1952, the Committee has been concerned with the methods by which it could meet the needs listed above. It was decided that the understanding of mental health problems by the general practitioner and the strengthening of his ability to treat such problems, should be the primary objective of the committee. The Committee concluded that this objective could be accomplished best through the local medical societies in the form of special programs arranged for consideration by the program committees of the various societies. It was decided that programs in the form of panel discussions would attract the greatest interest. These panels should not be composed entirely of psychiatrists but should present the psychiatric aspects of a subject along with the medical and surgical points of view.

In the spring of 1952, the first in a series of such panels was presented before the Albemarle County Medical Society. The subject selected was "The Control of Pain". This was discussed from the neurological, psychiatric, and pharmacological standpoints. Any medical society interested in including this or a similar type of panel on a program is requested to get in touch with the Chairman of the Committee, Dr. David C. Wilson.

A second project proposed by the Committee was a postgraduate course in psychotherapy. It was planned to hold such a course in June, 1952 but it was not possible to do so. It is hoped that a seminar course in psychotherapy for the medical practitioner can be conducted during the coming year at one or both medical schools.

All means are to be used to encourage psychiatrists to enter the state.

It is urged that plans for new hospital construction throughout the state give due consideration to psychiatric beds.

The Committee recommends that the mental hygiene clinics which have been established by the Department of

Mental Hygiene and Hospitals should be strengthened and every effort be made to improve their efficiency. It was also advised that the number of these clinics be increased. The committee seeks the support of the Medical Society for this clinic project.

II. *Blue Cross Allowances for Mental Disorders:*

The fact that the Blue Cross organization does not have the same attitude toward patients sick with personality disorders as it has toward patients with other forms of sickness has been studied by the Committee. After due consideration, the following resolution was proposed by Dr. J. R. Saunders and adopted by the Committee:

"Whereas, there is such a discrepancy in the coverage allowed by the Blue Cross Plan for mental patients in hospitals and institutions not only in the various states but even in different localities of the State of Virginia, we, the members of the Mental Hygiene Committee of The Medical Society of Virginia, would like for The Medical Society of Virginia to make some effort to have the Blue Cross revise the coverage for mental patients to the extent that such coverage is in line with that allowed for physical illnesses on an equitable and uniform basis."

III. *Clinical Psychologists Entering the Practice of Medicine:*

It was called to the attention of the Committee that in several instances, persons qualified as clinical psychologists have engaged in the treatment of patients with mental disorders. These practitioners have not been examined in the basic sciences and are therefore practicing the healing arts contrary to the Medical Practice Act.

In the opinion of this Committee, it is the responsibility

of the medical profession to supervise the qualifications of all persons who formally undertake the practice of the healing arts and charge a fee for their services. Therefore, it is felt that clinical psychologists who enter practice in such a fashion be asked either to meet the requirements of the Medical Practice Act or be required to work under the direct supervision of a fully qualified practitioner. The Committee recognizes that the problem of which persons shall conduct psychotherapy is a very basic one. It is hoped that the Mental Hygiene Committee of the Society will continue to work with the committee of the state Neuropsychiatric Society and a committee of the American Psychological Association to resolve this mutual problem.

The interest and the understanding of the problems of mental health by the members of The Medical Society of Virginia has been manifested in many ways during the past year. It is the hope of the Committee that this interest will continue to grow throughout the coming years.

DAVID C. WILSON, *Chairman*
THOMAS H. ANDERSON
JULIAN BECKWITH
ALEXANDER G. BROWN, III
JOSEPH R. BLALOCK
PATRICK C. DREWRY, JR.
THOMAS S. EDWARDS
SNOWDEN C. HALL, JR.
W. S. HOOTEN

JOHN B. McKEE
JAMES K. MORROW
JOHN R. SAUNDERS
JOHN A. SIMS
THOMAS SPESSARD
LONDON E. STUBBS
C. T. WILFONG
J. POWELL WILLIAMS

Minutes of Special Committee to Study Reference Committee Procedure

A special committee to study and recommend a procedure by which the reference committee system would operate at the annual meeting of The Medical Society of Virginia met at the Society Headquarters in Richmond on June 18, 1952.

Those present were Dr. Vincent W. Archer, Chairman, Dr. W. C. Caudill, Dr. James L. Hamner, Dr. Malcolm H. Harris, and Dr. John T. T. Hundley.

Dr. Hundley briefly viewed the background of the reference committee question, and explained why the special committee has been appointed.

There was some question as to the advisability of reference committees. It was pointed out that very few resolutions were introduced at the 1951 annual meeting, and having more than one reference committee would merely create an awkward and unwieldy situation.

It was then suggested that the Council should reconvene Monday morning as a reference committee. The consensus was that this might be a good arrangement for the trial attempt.

The committee then recommended that the following procedure be used in the conduct of business in the

House of Delegates during the 1952 annual meeting:

1. All resolutions must be presented *in writing* at the *first* session of the House of Delegates, at which time they will be referred to the reference committee.

2. Resolutions will be considered the following morning by the Council serving as a reference committee. Any member of The Medical Society of Virginia may appear before the committee at that time and enjoy the privilege of the floor.

3. The reference committee shall, at the second session of the House of Delegates, recommend the adoption, rejection, or other disposition of the resolutions.

It was moved and passed that this recommended procedure be published in the *Virginia Medical Monthly* preceding the annual meeting, and that a copy be sent the president of each component society. The presidents will be requested to acquaint their membership with the recommended procedure.

The committee then directed that a secretary be made available before and during the first meeting of the House of Delegates in order that resolutions might be properly prepared and typed for presentation.

There being no further business, the meeting was adjourned by Dr. Archer.

**DELEGATES TO 1952 MEETING
THE MEDICAL SOCIETY OF VIRGINIA**

Where no name is listed, it is indicative that no delegate or alternate was reported.

<i>Delegates</i>	<i>Alternates</i>	<i>Delegates</i>	<i>Alternates</i>
		Floyd	
		Dr. F. Clyde Bedsaul	
Accomack		Fourth District	
Dr. Joseph L. DeCormis	Dr. J. Fred Edmonds	Dr. L. H. Bracey	Dr. H. H. Braxton
Albemarle		Dr. William B. Bishop	Dr. Earle M. Bane
Dr. McLemore Birdsong	Dr. George R. Minor	Dr. K. S. Freeman	Dr. A. B. Showalter
Dr. F. D. Daniel	Dr. John R. Morris	Dr. John G. Graziani	Dr. Thomas Hardy
Dr. G. S. Fitz-Hugh	Dr. Fletcher Woodward	Dr. J. M. Habel	Dr. J. T. O'Neal
Dr. E. P. Lehman	Dr. B. S. Leavell	Dr. Fletcher Wright, Jr.	Dr. H. C. Jones
Dr. A. C. Whitley	Dr. M. D. Foster		
Alexandria		Fredericksburg	
Dr. Ben C. Jones	Dr. Charles V. Amole	Dr. Claude A. Nunnally	Dr. J. R. Travis
Dr. James W. Love	Dr. John A. Sims	Dr. Thomas B. Payne	
Alleghany-Bath		Halifax	
Dr. J. M. Emmett	Dr. H. G. Hudnall	Dr. James D. Hagood	Dr. W. D. R. Driscoll
Dr. S. P. Hileman	Dr. M. B. Jarman		
Amherst-Nelson		Hanover	
Dr. E. C. Kidd	Dr. E. L. Hirsley	Dr. J. D. Hamner	Dr. A. C. Ray, Jr.
Arlington		James River	
Dr. John T. Hazel	Dr. Harry C. Bates	Dr. E. B. Nuckols	Dr. N. P. Snead
Dr. J. Raymond B. Hutchinson	Dr. John B. Leary	Dr. W. A. Pennington	Dr. Garland Dyches
		Dr. J. H. Yeatman	Dr. A. C. Whitley
Augusta		Lee	
Dr. Guy R. Fisher	Dr. Charles Savage	Dr. George B. Setzler	Dr. T. S. Ely
Dr. Alex F. Robertson	Dr. Thomas G. Bell		
Bedford		Loudoun	
Dr. C. R. Titus	Dr. W. V. Rucker	Dr. William P. Frazer	Dr. Keith Oliver
Botetourt		Louisa	
Dr. E. L. Coffey	Dr. E. B. Morgan	Dr. John W. Barnard	Dr. H. S. Daniel
Buchanan-Dickenson		Lynchburg	
Dr. T. C. Sutherland	Dr. J. P. Sutherland	Dr. John W. Davis, Jr.	Dr. H. L. Riley, Jr.
Dr. J. C. Moore	Dr. J. P. Williams	Dr. E. S. Groseclose	Dr. George B. Craddock
Charlotte		Mid-Tidewater	
Dr. Stuart Wilson Tuggle	Dr. Thomas Watkins	Dr. R. D. Bates	
Culpeper		Dr. J. R. Gill	Dr. R. B. Bowles
Dr. C. G. Finney	Dr. J. L. Stringfellow	Dr. J. M. Gouldin	Dr. Felix Wilson
Danville-Pittsylvania		Dr. M. H. Harris	Dr. A. W. Lewis, Jr.
Dr. Snowden C. Hall, Jr.	Dr. Henry J. Langston	Dr. J. R. Parker	
Dr. John J. Neal	Dr. Charles A. Easley, Jr.	Dr. H. A. Tabb	Dr. James W. Smith
		Dr. A. L. VanName	Dr. T. L. Grove
Elizabeth City		Norfolk	
Dr. Frank A. Kearney	Dr. Robert W. Wright, Jr.	Dr. W. C. Salley	Dr. M. H. Bland
Fairfax		Dr. Brock D. Jones	Dr. J. R. Kight
Dr. J. D. Zylman		Dr. Russell M. Cox	Dr. J. D. Lea
Fauquier		Dr. George Duncan	Dr. J. A. Vann
Dr. William R. Pretlow	Dr. Wade C. Payne	Dr. K. W. Howard	Dr. W. E. Butler
		Dr. Robert L. Payne, Jr.	Dr. J. W. Oast
		Dr. W. H. Whitmore	Dr. B. L. Parrish

<i>Delegates</i>	<i>Alternates</i>	<i>Delegates</i>	<i>Alternates</i>
Northampton		Roanoke Academy	
Dr. H. D. Denoon	Dr. E. M. Henderson	Dr. R. Earle Glendy	Dr. R. C. Crawford
Northern Neck		Dr. Robert Hutcheson	Dr. George Hurt
Dr. Leonard Booker	Dr. Mercer Neale, Jr.	Dr. R. S. Owens	Dr. Ira H. Hurt
Dr. Arthur B. Gravatt, Jr.	Dr. W. H. Matthews	Dr. Charles H. Peterson	Dr. A. P. Jones
Dr. C. Y. Griffith	Dr. Harper Ward	Dr. Hugh H. Trout, Jr.	Dr. W. L. Sibley
Dr. Paul C. Pearson	Dr. H. E. Sisson	Dr. Mortimer H. Williams	Dr. Henry Lee
Northern Virginia		Rockbridge	
Dr. George Long	Dr. M. J. W. White	Dr. T. F. Kennan	Dr. Hunter McClung
Dr. Harold W. Miller	Dr. Frank W. Gearing, Jr.	Rockingham	
Dr. C. L. Riley	Dr. James A. Miller	Dr. Galen G. Craun	Dr. H. G. Preston
Dr. John P. Snead	Dr. Edwin Eastham	Russell	
Dr. Frank Tappan	Dr. C. H. Iden	Scott	
Orange		Dr. G. C. Honeycutt	
Dr. David H. Miller	Dr. J. D. Middlemas	Southwestern Virginia	
Patrick-Henry		Dr. E. L. Bagby	Dr. E. S. Carr
Dr. M. H. Price		Dr. R. D. Campbell	Dr. J. J. Eller
Dr. J. H. Irby		Dr. James Chitwood	Dr. Fred Delp
Princess Anne		Dr. Glenn Cox	
Dr. Ira L. Hancock	Dr. H. B. LaFavre	Dr. C. F. Graham	Dr. S. W. Huddle
Richmond Academy		Dr. Harry Hayter	Dr. Charles Harkrader
Dr. Guy W. Horsley	Dr. Carrington Williams, Jr.	Dr. George Kegley	
Dr. Kinloch Nelson	Dr. Weir Tucker	Dr. D. S. Phlegar	Dr. A. M. Showalter
Dr. Charles Outland	Dr. St. George Tucker	Dr. J. B. Spinks	Dr. R. L. Waddell
Dr. E. L. Kendig	Dr. William Young	Tazewell	
Dr. Paul D. Camp	Dr. William Higgins, Jr.	Dr. Mary E. Johnston	Dr. L. L. Thompson
Dr. William Morton	Dr. John Lynch	Tri-County	
Dr. William Hill	Dr. R. D. Bates, Jr.	Dr. F. I. Steele	Dr. Leon Alexander
Dr. E. E. Haddock	Dr. Walter Buffey	Dr. Addison Morgan	Dr. William Lambdin
Dr. Emily Gardner	Dr. Linwood Ball	Dr. W. Holmes Chapman, Jr.	Dr. J. R. Ellison, Jr.
Dr. Morris M. Pinckney	Dr. Wellord Reed	Warwick	
Dr. Harry J. Warthen	Dr. Virgil May	Dr. J. W. Carney	Dr. Russell Buxton
Dr. A. I. Dodson	Dr. Adney Sutphin	Dr. E. B. Mewborne	Dr. William Read
Dr. E. M. Holmes	Dr. E. L. Carpenter	Williamsburg-James City	
Dr. William Jordan	Dr. Coleman Booker	Dr. Joseph E. Barrett	Dr. Granville L. Jones
Dr. Carrington Williams, Sr.	Dr. George Snider	Wise	
	Dr. George Thrift	Dr. T. J. Tudor	Dr. W. B. Barton
	Dr. J. O. Burke		

**WOMAN'S AUXILIARY
TO THE
MEDICAL SOCIETY OF VIRGINIA**

President.....MRS. HERMAN W. FARBER, Petersburg
President-Elect...MRS. THOS. N. HUNNICUTT, JR., Newport News
Recording Secretary.....MRS. L. BENJAMIN SHEPPARD, Richmond
Corresponding Secretary.....MRS. CARNEY C. PEARCE, Petersburg
Treasurer.....MRS. K. W. HOWARD, Portsmouth
Parliamentarian.....MRS. HERBERT W. ROGERS, Norfolk
Historian.....MRS. M. H. HARRIS, West Point

INFORMATION

THIRTIETH ANNUAL MEETING

RICHMOND, VIRGINIA, SEPTEMBER 29, 30 - OCTOBER 1, 1952

HEADQUARTERS: HOTEL JEFFERSON

REGISTRATION BOOTH OPEN

MONDAY, SEPTEMBER 29, 9:00 A.M.—4:00 P.M.

TUESDAY, SEPTEMBER 30, 9:00 A.M.—12 NOON

CHAIRMEN OF ARRANGEMENTS:

MRS. RANDOLPH H. HOGE—MRS. MAYNARD R. EMLAW
 Woman's Auxiliary to the Richmond Academy of Medicine.

All ladies attending The Medical Society of Virginia meeting are cordially invited to attend the Auxiliary meeting and luncheon.

Please register on arrival. All events will start promptly as scheduled.

Monday, September 29

2:00 P.M.—Pre-Convention Board Meeting, President's suite, Hotel Jefferson

3:30 P.M.—President's Tea for Board Members, Mrs. Farber's suite

Presidents and Presidents-Elect of County Auxiliaries, State Officers, and Chairmen of all Committees are expected to attend.

Tuesday, September 30

9:00 A.M.—General Annual Meeting, Assembly Room, Second Baptist Church.

All women attending the Convention are cordially invited to attend.

Mrs. Herman W. Farber, president, presiding.

Invocation—Mrs. Hawes Campbell, Convention Chaplain.

Address of Welcome—Mrs. Henry W. Decker.

Response—Mrs. J. L. DeCormis.

In Memoriam—Mrs. Paul C. Pearson.

Minutes of twenty-ninth annual meeting.

Minutes of the Post-Convention Board meeting.

Minutes of the Winter Board meeting.

Roll Call.

Presentation of Honored Guests:

Mrs. Ralph Eusden, President of the Woman's Auxiliary to the American Medical Association.

Mrs. V. Eugene Holcombe, President of the Woman's

an's Auxiliary to the Southern Medical Association.

President's Report—Mrs. Herman W. Farber.

Report of Credentials Committee—Mrs. T. Latane Driscoll, Richmond.

Reports of Officers.

Reports of Chairmen of Standing and Special Committees.

Reports of County Auxiliary Presidents.

Guest Speaker—Mrs. V. Eugene Holcombe, President of the Woman's Auxiliary to the Southern Medical Association.

Report of Councilor to Southern—Mrs. Waverly Payne, Hampton.

Report of the Annual Convention of the Woman's Auxiliary to the American Medical Association—Mrs. Vincent Lascara, Warwick County.

Unfinished Business.

New Business.

Recommendations from the Board.

Report of Committee on Revisions.

Report of the Nominating Committee—Mrs. C. M. McCoy, Chairman.

Election of Officers.

Installation of Officers—Mrs. H. W. Rogers, Parliamentarian.

Presentation of Gavel.

Acceptance of Gavel—Mrs. Thos. N. Hunnicutt, Jr. Adjournment.

LUNCHEON*

12:15 P.M.—Social Half-hour—Commonwealth Club.

12:45 P.M.—Buffet Luncheon—Commonwealth Club.

Honoring especially invited guests of The Medical Society of Virginia and of the Auxiliary, with their husbands and wives; Honorary Members; Past Presidents of the Auxiliary; the retiring and incoming presidents of The Medical Society and their wives; the presidents of the Woman's Auxiliary to the American Medical Association and the Southern Medical Association, and the chairman of the Advisory Council and wife.

Invocation—Mrs. Hawes Campbell.

Introduction of Guests—Mrs. Herman W. Farber.

Address—Mrs. Ralph Eusden, President Woman's Auxiliary to American Medical Association.

Fashion Show.

Acknowledgments—Mrs. Maynard R. Emlaw, President of the Woman's Auxiliary to the Richmond Academy of Medicine.

Inaugural Address—Mrs. Thos. N. Hunnicutt, Jr. Adjournment.

Wednesday, October 1

8:15 A.M.—Past President's Breakfast, Dining Room A, Hotel Jefferson, Mrs. J. B. Stone, Chairman.

9:30 A.M.—Post-Convention Board Meeting—Mrs. Thos. N. Hunnicutt, Jr., presiding

Presidents of County Auxiliaries, State Officers and Chairmen of all Committees are expected to attend.

*Luncheon reservations are limited and tickets should be purchased promptly upon registration.

EDITORIAL

Robert P. Cooke, 1884 -

IN AN editorial on Henry Rose Carter in the July *Monthly*, we discussed how the work of the Yellow Fever Commission had narrowed the etiology of the disease down to two theories—the mosquito theory and the fomite theory. It was necessary to prove the one beyond the least doubt and disprove the other. The time had come for human experimentation for there was no known experimental animal susceptible to yellow fever. As it turned out, the mosquito experiment was the more dangerous, but the fomites was unquestionably the more disagreeable.

The dramatic story of the conquerors of yellow fever at Los Animas and Camp Lazear has been frequently and well told, especially by Dr. Howard Kelly (1906) and Dr. Phillip Hench (1941; 1948). It was reported in scientific journals, but so far as we know it has never been told from the standpoint of the “guinea pig”. Dr. Cooke is the last survivor of the experiments. He is particularly well qualified to tell this story for he is a modest man and not given to exaggeration. For example, Congress gave him a gold medal in 1929, and he says nothing about it. The *Virginia Medical Monthly* asked Mr. James McCullough of the Richmond Health Department to interview Dr. Cooke and get his story. Here it is.

A few miles outside of Lexington in Rockbridge County, Virginia, one comes upon a most charming stone house situated on the banks of a noisy little stream. Its former owner was a miller of woolen blankets used by the Confederate Army. For the last 22 years its owner and restorer has been one of Virginia's most distinguished contributors to the field of public health, Dr. Robert Page Cooke. Today one enters from a flower bordered terrace into a low beamed sitting room with its huge stone fire place and its cool delightful aura of southern gentility. Escorted by one of the two charming daughters up to the second floor where Dr. Cooke's room is located, one finds seated in a comfortable chair a man who has been completely untouched by world recognition of his act of self-sacrifice. His extreme courtesy and unprepossessing manner of speaking serve to increase the impression of shyness and self-effacement.

Robert Page Cooke was born October 12, 1874, at his father's country estate, “The Briars” in Clarke County, Virginia. His father was the prolific and widely read Virginia author, John Esten Cooke, son of John Rogers Cooke and Maria Pendleton. His mother was the socially prominent Mary Francis Page, daughter of Dr. Robert Powel Page and Susan Grymes Randolph of “Saratoga”.

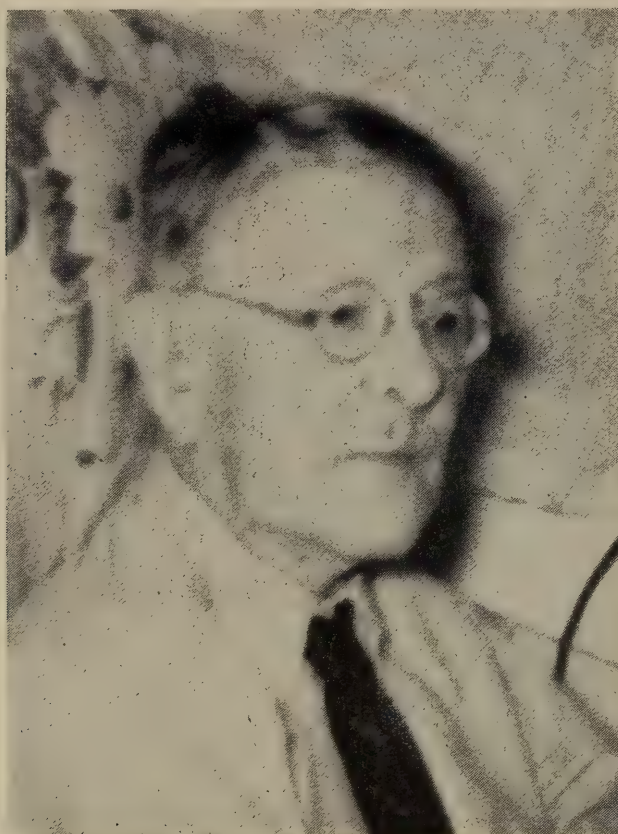
These unions brought together descendants from the Pages, the Byrds, the Randolphs, the Burwells, and the Carters—truly an intermingling of the first families of Virginia.

Dr. Cooke's charming mother died when he was only 4 years of age, and his father brought a niece, the gifted Miss Mariah Pendleton Duval, to “The Briars” in order that upbringing and education of Robert, his sister, Susan Randolph, and his brother, Edmund Pendleton, might be uninterrupted. Miss Duval has given an account of the stone mansion-home in which Robert was reared, mentioning the fact that the novelist father sat at table with a son on either side, and seldom failed to conduct morning prayer from the big leather chair to the left of the hearth.

Was it prophetic of Dr. Cooke's future contribution to the control of typhoid fever that his father yielded to this same malady and died when Robert was barely 12 years

of age? At least we know that he did decide to study medicine, and to that end entered the University of Virginia Department of Medicine, where he graduated in 1897. While at the University he came under the influence of Dr. Paul Barringer, former president of The Medical Society of Virginia, and at that time Chairman of the Faculty of the University. After graduation the young Robert Cooke went on to do post-graduate work at New York Polyclinic and was licensed to practice medicine in 1899. He began shortly thereafter to practice in Clarke County but upon receipt of a commission as contract surgeon to the United States Army left in June, 1900, with orders to go to Cuba.

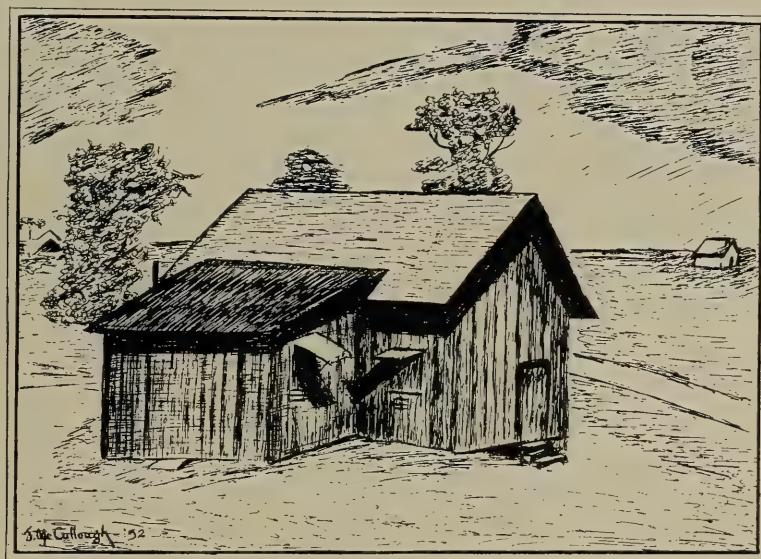
He was first stationed at Pinar del Rio where he had his first experience with yellow fever. In his own words he recalls, "We didn't know what it was and were all pretty mad when Pinar del Rio turned out to be a nest of yellow fever. We had



ROBERT P. COOKE, M.D.

a South American specialist who diagnosed the disease as Pernicious Anemia. When the men began dying we left." On the way back to Columbia Barracks Dr. Cooke stopped at Guanajay where there were a number of patients suffering from yellow fever who had been left behind when the unit moved out to participate in the quelling of the Boxer Rebellion. Dr. Cooke looked after these for a short time and then returned to Columbia Barracks. A short time later Dr. Cooke was ordered to replace the ship's surgeon on an army transport steamer making a trip to New York. While back in the States, Dr. Cooke recalls that he was able to have a four day visit in his native Virginia before returning to Cuba. It was on the return trip to Cuba that Dr. Cooke first met the man responsible for his decision to take part in the yellow fever experiment, Major Walter Reed. Asked about his first impression of Dr. Reed, he replied, "He was a very charming man". A short time later, in the Officer's Mess,

Dr. Cooke expressed to Major Reed his interest in the experiments which were being conducted. When Major Reed explained his lines of experimentation, Dr. Cooke volunteered to occupy the infected clothing building in order to attempt to disprove the theory of transmission of yellow fever by fomites. And so it was that on the night of November 30, 1900, Dr. Cooke, accompanied by privates Warren Gladsden Jernegan and Levi E. Folk, entered the little frame house with its two windows and single door. The small room was heated with a stove in order to maintain tropic heat. In the daytime the men were quarantined in an enclosure near this building. Every other night an ambulance from the Los Animas Hospital brought a large box of infected clothing and bedding. These infected articles had to be removed from the tightly packed box by the men after they had sealed up the house. The men would then don pajamas worn by patients who had died of yellow fever and pile the infected bedding upon the regular army cots used by the men. When asked about their personal reaction each night Dr. Cooke replied, "We all felt like we were coming down with yellow fever every day." He then recalled, "Somebody came to our building one night and told us that the first case of artificially inoculated yellow fever had taken place. This scared us worse than anything." Although the men ate outside in the enclosure during the day, having their meals brought to them from the army mess, each time they went again into the infected clothing building they felt like vomiting. As Dr. Cooke recalls it, the smell was the worst thing about staying in the building although the heat made it almost impossible to sleep. The men passed the time playing cards and lying around.



Infected clothing building, Camp Lazear
From an original photograph

Although Dr. Cooke had written to a cousin in Clarke County, Virginia, "I am on temporary duty at a small camp a little outside the port, where Major Reed is making some experimental investigations. I shall not be able to write for the next month.", he recalls that he did write occasionally to his cousins in Virginia.

When asked about his volunteering to stay in the infected clothing building, he replied "I was young and enthusiastic and wanted to do something new. I didn't think too much about the danger attached to it."

Dr. Cooke left Columbia Barracks soon after the experiment and went to the army camp Matansas at Guanajay with the 8th Calvary of the Army of Occupation. Other transfers of station followed and from 1915 until 1919 Dr. Cooke was contract surgeon at Remount Depot in Front Royal, Virginia, where he held the reserve rank of Captain in the Medical Corps and acted as post surgeon. He continued in Front Royal in private practice. In 1925 Dr. Ennion Gifford Williams, a former classmate of Dr. Cooke's, of the State Health Department assigned Dr. Cooke to serve in Accomac County on the Eastern Shore. From here he came to Lexington in 1927 where he worked for the next 20 years, resigning in June 1947.

Of those early days in Rockbridge County, Dr. Cooke recalls that prior to his coming there had never been any public health officer assigned to the County. There were only about 3 county health officers in Virginia at the time, and he was the only one east of the Blue Ridge. Two major public health problems were early recognized by Dr. Cooke. He is well remembered for his work in typhoid fever, holding big clinics even on the creek banks where people would drive to the church yard in wagons and come on mule back. One of the county nurses who worked almost fifteen years with Dr. Cooke recalls dipping water out of the creek to boil up the needles in these big typhoid immunization clinics. The second public health problem which received Dr. Cooke's attention was that of the need of diphtheria immunizations. Dr. Cooke was one of the first to use health education materials in putting across his program of public health to the people. His regular articles on health subjects ranging from the care of children's teeth to "advice about diseased tonsils" were for many years a feature of the Rockbridge County News and Lexington Gazette. He was most interested in the communicable diseases such as typhoid, diphtheria and tuberculosis. Under his guidance the health department became known as a progressive one, Rockbridge being the first Virginia county eligible to send children to Dupont Hospital in Wilmington. As an outcome of his progressive interest in all phases of public health, a group of lay people banded together and organized the Children's Clinic Organization which is well known for its work in the county particularly in maternal and child health. All this from a man who now states that he had never heard of public health before meeting and assisting Dr. Reed in his yellow fever experiments.

The Rector of the Parish at Front Royal during Dr. Cooke's practice there, and a close and lifelong friend since that time, fervently declared, "God alone knows the amount of work this man has done among people of every class."

Floral Eponym

REHMANNIA

REHMANN, JOSEPH R. (d.1831)

Rehmann was professor of special pathology and therapeutics in Rothenburg. Later he taught in Vienna, and was an army surgeon. He died of cholera in St. Petersburg. He was the author of several books among which was "Zwei chinesische Abhandlungen über die Geburtshilfe".

Rehmannia are sticky perennial herbs of the family Scrophulariaceae. They grow in Asia.

NEWS

Invitation.

The Valentine Company, Inc. cordially invites physicians and their families attending the meeting of The Medical Society of Virginia to be present at a reception and exhibition at the Valentine Museum, 11th and Clay Streets, at 4:30 P.M., Monday, September 29. Refreshments will be served on the portico of the Wickham-Valentine House.

Golf Tournament.

The annual Golf Tournament for The Medical Society of Virginia will be held Monday afternoon, September 29, at the Country Club of Virginia. Transportation to and from the golf course will be arranged for those who desire it. Sandwiches and beverages will be available at the course as well as the use of the dressing room. Prizes will be contributed by various pharmaceutical firms. Detailed information can be obtained at the General Registration Desk where participants in the tournament will be registered. Prizes will be distributed the evening of the 29th.

Medico-Legal Symposium.

An imposing array of speakers has been secured for the Medico-Legal Symposium to be held at Richmond's Hotel Jefferson on Wednesday, October 1, beginning at 2:00 p.m. Appearing on the program will be T. Dale Stewart, M.D., Curator, Department of Anthropology, Smithsonian Institute, Washington, D. C.; Orville Richardson, J.D., Member of Firm of Hullverson and Richardson, St. Louis, Missouri; Clarence Muehlberger, Ph. D., Toxicologist, State of Michigan, Lansing, Michigan; Milton Helpert, M.D., Deputy Chief Medical Examiner, New York City; and Richard Ford, M.D., Professor of Legal Medicine, Harvard University, Boston, Massachusetts. Wyndham B. Blanton, M.D., Richmond, will be the chairman and moderator.

The Southwestern Virginia Medical Society

Will meet at the Governor Tyler Hotel in Radford, September 25, at 2:00 P. M. The afternoon program will consist of the following:

1. "Multiple Myeloma, Presentation of Case and Discussion"—Dr. Walter S. Schiff, Marion
2. "Diaphragmatic Hernia"—Dr. Marcellus A. Johnson, III, Roanoke
3. Panel on Public Relations.

Moderated by—Dr. James King, Radford, Chairman of Public Relations Committee of the State Society

- a. Dr. Fred White, Roanoke, Chairman, Public Relations Committee, Southwestern Virginia Medical Society
- b. Dr. Marcellus Johnson, Jr., Roanoke, Chairman, Public Relations Committee of Roanoke Academy of Medicine
- c. Dr. Ed Haddock, Richmond, President of Virginia Academy of General Practitioners and Chairman of Richmond Academy of Medicine Public Relations Committee
- d. Mr. Robert Howard, Richmond, Secretary, The Medical Society of Virginia

4. Business Session

5. Social Hour at 6:00 P. M.

6. Banquet

7. Address by Dr. R. B. Robbins of Camden, Arkansas, President of the American Academy of General Practitioners.

Dr. A. F. Giesen of Radford is president of the Society and Dr. Richard C. Potter of Marion secretary-treasurer.

Registration — General Practitioners — At Medical Society of Virginia Convention

ALL physicians doing a *general practice* of medicine and surgery (in Virginia and in other states) are requested—and *urged*—to register at the Registration Desk for General Practitioners, which will be maintained in the Lobby of the Hotel Jefferson for the duration of the Annual Convention of the Medical Society of Virginia, September 29-October 1, 1952.

You will obtain your tickets (at \$3.00 per person) at this desk for the *General Practitioners' Luncheon*, to be held in the Empire Room on Tuesday, September 30, at 12:30 p. m.

Be sure to take your wives and friends to the GP Luncheon!

This registration is *in addition* to the registration required of you for the Medical Society and it will confirm your attendance at the Medical Society Convention, which is applicable on your postgraduate educational requirements for the American Academy of General Practice.

H.M.S.

Fauquier County Medical Society.

At a meeting on June 8, the following were elected as officers of this Society for the coming year: President, Dr. Wade C. Payne, Haymarket; vice-presidents, Dr. Sam T. Adams, The Plains, Dr. W. O. Bailey, Leesburg, and Dr. William R. Pretlow, Warrenton; and secretary-treasurer, Dr. Paul K. Candler, Warrenton.

Dr. Shanholtz Reappointed.

Dr. Mack I. Shanholtz, who became State Health Commissioner last October to fill the vacancy caused by the death of Dr. L. J. Roper, has been reappointed to this position by Governor Battle for a term of four years ending June 30, 1956.

A.M.A. Dues.

The following statement is made by Dr. George F. Lull, secretary-general manager of the American Medical Association:

"When a member is dropped from the American Medical Association for nonpayment of dues, he owes dues for the year in which he was dropped only and does not owe for the intervening years. For instance, a man dropped in 1950 has been a member all during the year before he was dropped because that year we did not drop him until after the first of 1951. If he desires to join the Association again, he pays the current dues and in addition pays for the year 1950, as he was a member all that year and no dues were paid."

Second Annual Conference on Crippled Children.

This is to remind you of the invitation extended to you in the June issue of the VIRGINIA MEDICAL MONTHLY to attend the second annual Conference on Crippled Children which The Nemours Foundation has asked the Virginia Council on Health and Medical Care to sponsor. This year's conference will be on Speech and Hearing Handicaps, and will be held at the University of Virginia, Thursday and Friday, September 11th and 12th. For additional information and a preliminary program please address Edgar J. Fisher, Jr., Director, Virginia Council on Health and Medical Care, 102 East Franklin Street, Richmond, Virginia.

Col. L. Holmes Ginn, Jr.,

Eighth Army surgeon in Korea, has been awarded the Battalion of The Cross of King George I, high Greek decoration, from Lt. Gen. Thrassivoulos

Tsakalotos, chief of staff of the Greek army. Colonel Ginn was decorated for his outstanding contributions to Greek units attached to the Eighth Army. A native of Berryville, Va., the colonel is a graduate of the College of William and Mary and the Medical College of Virginia. He has been in charge of Army medical services throughout Korea since last January.

Lilly Replaces Stocks Damaged by California Quake.

Eli Lilly and Company, Indianapolis pharmaceutical and biological manufacturer, announced on July 22 that Lilly products destroyed in California earthquakes will be replaced without cost to hospitals and retail pharmacists. It is an odd coincidence that the Lilly replacement policy was set up after another California disaster, that of 1906 in San Francisco.

The Lilly representatives in the Tehachapi vicinity are making the replacement of damaged Lilly stock their first order of business. The Lilly company also maintains a reserve of typhoid vaccine and other biological products in concentrated form for fast shipment during disasters. The company, aware of its public responsibilities in catastrophies, has its shipping personnel standing by twenty-four hours a day so that it can rapidly furnish products needed in disaster areas.

University of Virginia, Department of Medicine News.

Scholarships for the academic year 1952-53 amounting to \$35,938.00 have been awarded to 71 students in the Department of Medicine of the University of Virginia. Approximately one out of every four students in the department received some scholarship aid.

Recent promotions among the faculty of the medical school include those of Dr. Frank J. Curran from associate professor to professor; Dr. Richard W. Garnett, Jr., from assistant to associate professor; Dr. Gordon C. G. Thomas from instructor to assistant professor, all in the department of Neurology and Psychiatry; Dr. Fielding Jason Crigler from clinical instructor to clinical assistant professor in Ophthalmology; Dr. Catherine M. Russell from instructor to assistant professor in Microbiology; Dr. Arthur J. Bachrach to instructor in Neurology and Psychiatry and director of the Clinical Psychology Laboratories; and Dr. Norman F. Wyatt to instructor in Internal Medicine.

General Practitioners to Hold Luncheon

Social highlight of the "GP" year, will be the Annual Luncheon during the September gathering of the *Medical Society of Virginia*.

The *General Practitioners* will gather in the *Empire Room* of the Hotel Jefferson in Richmond on Tuesday, September 30, at 12:30 p. m. for their annual "family get-together", when, with wives and friends, they will enjoy the fellowship of their GP colleagues in Virginia and from neighboring states, between scientific sessions of the State Medical Society and learning about the latest in drugs and equipment from the Technical Exhibits of the many pharmaceutical and surgical supply houses.

This gathering will mark the conclusion of another year of growth and achievement for the *Virginia Academy of General Practice* and will see the transfer of the reins of administration pass to the officers and members of the Board of Directors who were elected at the general business meeting during the Annual Scientific Assembly, held in Roanoke in May, during appropriate installation ceremonies. Dr. John O. Boyd, Jr., of Roanoke will turn the gavel over to his successor, Dr. Edward E. Haddock of Richmond, and Dr. Brewster A. Hopkins of Stuart will officially become *President-Elect*, with Dr. Richard M. Reynolds of Norfolk as *Vice-President*. Other officers will remain the same, Dr. W. Linwood Ball of Richmond succeeding himself as Secretary, and Dr. Clifton R. Titus of Bedford likewise succeeding himself as Treasurer. Newly elected members of the Board of Directors, to succeed Doctors J. C. Coulter of Charlottesville, Harry M. Frieden of Norfolk and B. A. Hopkins of Stuart, whose terms of office expire on October 1, will be Doctors Harry M. Frieden, in the Second District (succeeding himself), John J. Neal of Danville, in the Fifth District, and Charles W. Warren of Upperville, in the Eighth District.

It is anticipated this will be the largest gathering of its kind yet held during the State Society's meeting and all General Practitioners, their wives and friends are urged to secure their luncheon tickets from the *GP Registration Desk* in the Lobby early on Monday. Cost of the Luncheon will be \$3.00 per person and you are assured a good menu—and a *good time!*

H.M.S.

Dr. Louis N. Waters,

Who has been engaged in general practice at Norton for several years, left on July the 1st for the

University of Virginia Hospital where he is assistant resident on obstetrics and gynecology.

Dr. E. K. Carter,

Class of '46, Medical College of Virginia, who has been practicing in Richmond, is now attached to the staff of Duke University School of Medicine.

Van Meter Prize Award.

The American Goiter Association again offers the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The Award will be made at the annual meeting of the Association, which will be held in Chicago, Illinois, May 7, 8 and 9, 1953, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English; and a typewritten double spaced copy in duplicate sent to the Corresponding Secretary, Dr. George C. Shivers, 100 East Saint Vrain Street, Colorado Springs, Colorado, not later than February 15, 1953.

Announcement of Health Council Meeting.

All physicians are cordially invited to attend a meeting of the Virginia Council on Health and Medical Care at 10:00 a.m., Thursday, October 9th, at the Baruch Auditorium of the Medical College of Virginia. The program will be in charge of Dr. W. R. Jordan of Richmond, who is chairman of the Council's Nutrition Committee. The Appomattox Nutrition Study and the Nutrition and Dental Health Education Pilot Study, which was carried on in Madison, Rappahannock and Warren counties, will be presented and discussed. If additional information is desired, please contact Edgar J. Fisher, Jr., Director, Virginia Council on Health and Medical Care, 102 East Franklin Street, Richmond 19, Virginia.

Attention, Doctors!

Have you looked over the advertising pages of the MONTHLY recently? If not, you are missing a wonderful opportunity to become acquainted with the newer pharmaceuticals, to keep in touch with many of those with whom you are already acquainted, and with other matters beside the purely scientific. The advertisers are among our best friends. They help

us financially in addition to keeping us in touch with what they offer.

When the firms offer samples or other help, write them for information. You will be surprised how much they will help you.

Fellowships for Basic Research in Arthritis.

The Arthritis and Rheumatism Foundation is offering to qualified individuals research fellowships in the basic sciences related to arthritis. Fellowships will be granted on both the predoctoral and postdoctoral levels, and will run for one year with prospect of renewal. The predoctoral fellowships will range from \$1,500 to \$3,000 per annum depending on the family responsibilities of the fellow, and the postdoctoral fellowship will range from \$3,000 to \$6,000 on the same basis.

The deadline for applications is November 1, 1952. Applications will be reviewed and awards made by February 15, 1953.

For information and application forms address the Medical Director, The Arthritis and Rheumatism Foundation, 23 West 45th Street, New York 36, N.Y.

Associated With Dr. Camp.

Dr. Paul D. Camp, Richmond, announces that Dr. Herbert Gaines Langford is now associated with him in the practice of medicine, with offices in Professional Building. Dr. Langford is a graduate of the Medical College of Virginia in the class of '45.

Dr. A. R. W. Climie

Resigned as Health Officer of the Alleghany-Botetourt Health District on July 30, 1952.

Virginia Society of Anesthesiologists.

At a recent meeting of this Society, the following officers were elected: President, Dr. Robert Morrison, Lynchburg; vice-president, Dr. Harold Chase, Charlottesville; and secretary-treasurer, Dr. Thomas Walker, Richmond.

Fiske Fund Prize Dissertation.

The Trustees of the Caleb Fiske Fund of the Rhode Island Medical Society announce the following subject for the prize dissertation of 1952: "The Present Status of Anti-Coagulant Therapy."

For the best dissertation a prize of \$200 is offered. Dissertations must be submitted by December 1, 1952, with a motto thereon, and with it a sealed envelope bearing the same motto inscribed on the outside, with the name and address of the author within. Copy must be typewritten, double spaced, and should not exceed 10,000 words. For further

information write the Rhode Island Medical Society, 106 Francis Street, Providence 3, R. I.

Observations Relating to the Use of Gamma Globulin in Prevention of Paralytic Poliomyelitis.

Whether gamma globulin will be effective in the prevention of paralytic poliomyelitis is not now known. On the basis of animal experiments and preliminary study on humans, it is possible that globulin will have value in human poliomyelitis, but serious questions remain to be answered before such a hope can be substantiated. Nevertheless, public dissemination of information on the status and objectives of current studies, incompletely presented or misunderstood has created a serious demand for gamma globulin which cannot be met.

Virtually the entire output at current production rates is required to meet the demand for prevention or modification of the course of measles and infectious hepatitis.

Under the circumstances, it is obvious that the existing limited supply and current production of gamma globulin should be reserved for use in these diseases in which its efficacy has been established.

Wanted—Medical Resident.

Beginning July 1, fully equipped 165-bed general hospital has opening for Medical Resident. Stipend \$150 a month and maintenance. Address "Medical Director", C. & O. Hospital, Huntington, W. Va. (*Adv.*)

Wanted—A Doctor.

Very badly needed. None within a radius of twenty miles, and can't get those when needed. Thickly settled community. Easily accessible by bus. A paying location. High school, church, post office, tourist camps. House available. Contact Miss Clara Smith, Ladysmith, Virginia. (*Adv.*)

OBITUARIES

Dr. Thomas D. Walker, Jr.,

Newport News, died June 27 in a local hospital. He was 68 years of age and a graduate of the University of Louisville School of Medicine in 1909. He later did graduate work at Harvard and in Vienna. He located in Newport News in 1931 and engaged for a time in pediatrics. He was city physician until his appointment as medical director of the Patrick Henry hospital in October 1950. His wife and a daughter survive him.

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GUEST EDITORIAL

Art of Medicine

IT HAS been requested that I write an editorial on the "Art of Medicine". It is doubtful that I know what the art of medicine is, but since editorials are but an expression of the thoughts of the writers, and do not claim to be possessed of authority, it is hoped that in this case, an expression of a purely personal reaction is permissible.

Along with the remarkable forward strides in scientific medicine during the past fifty years there has appeared to be a regrettable regression in the warm personal side of medical practice, and the younger generation of physicians has been subjected to some criticism: they feel and with some justification that this criticism is unjust, because in the cold statistical figures that concern percentage of correct diagnoses, cured patients, and mortality rates, they are "delivering the goods" better than has ever been done before and some have asked, "Just what did this legendary old doctor have anyway, and how does he deserve all the praise that is given him?"

Before trying to answer that reasonable question, let's think a minute about what he did not have.

He had no automobile, no sulfa drug, penicillin, streptomycin, aureomycin, insulin, pituitrin, demerol, heparin, dicumerol, or novocaine; no laboratory, X-ray, metabolism, electrocardiogram, microscope, proctoscope, ophthalmoscope or sphygmomanometer; or golf clubs, or afternoons off; no modern anesthesia, injectable liver or iron, no anti-toxins and no estrogenic or hormone preparations. He did not even have vitamin pills or phenobarbital. Usually he had no bookkeeper or bill collector. He had no hospital. People, then, did not go to hospitals except for operations and usually not even then. There may have been a few trained nurses but he had none. He would not have considered a telephone a bother. He would have considered it a blessing if he had had one.

In our modern conception of the armamentarium against disease, he was completely unarmed. What, then, did he have? He had morphine and its derivatives, digitalis, iodine, oral iron, strophanthus, squill, mercury in many forms, iodides, silver nitrate (and probably argyrol), belladonna, ipecac, quinine, magnesium sulphate, cascara, castor oil, arsenic, bromides, chloral hydrate, aconite, veratrum viride, chloroform, etc. But he had something more; he had tolerance, sympathy, kindness, understanding, patience, and charity. He had a mind and body dedicated to the care of the sick and a soul filled with the spirit of self sacrifice. He realized his limitations and tried to compensate for them by giving unlimited service.

But with these simple remedies and these homely virtues, he built the medical profession and brought it glory, and established our calling to a higher place in the hearts

and minds of the public than that held by any other profession; from which high point, with all our marvelous modern methods and materials, we unfortunately have somewhat receded.

He delivered babies and attended them through their childhood diseases, treated them for their adult maladies and sustained and comforted the aged. He saw his patients in their homes, ate with them if his calls happened to be around meal time and often took naps on the sofa while waiting out obstetrical cases. So he was very near to the family, particularly because his services were not limited to the medicines he gave; he was the child guidance clinic, the nearest thing to the Community Chest adviser they had, and he advised families as to the wayward and was often the Father confessor, and in a thousand ways was the family's beloved friend. He was respected as a young man, loved as he grew older, and almost revered in his declining years. He had the art of medicine.

So my untutored impression is that the Art of Medicine is an expression of the understanding sympathetic heart of the doctor. The kindly spirit of the older generation of doctors and the scientific brilliance of the younger ones are not incompatible and a mixture of equal parts of each will do much toward the restoration of our profession to that high place in the hearts of the people that it once held and where it properly belongs.

TATE MILLER, M.D.

EDITOR'S NOTE.—Dr. Miller is Professor of Clinical Medicine at Southwestern Medical School, Dallas; Ex-President of the Texas State Medical Society; and was Surgeon in the Medical Corps of the U. S. Navy, in World Wars I and II.

Floral Eponym

LONICERA

LONICER, ADAM L. (1528-1586)

Lonicer, in whose honor the honeysuckles were named by Linneus, was born in Marburg on October 10, 1528 and died in Frankfort a. M. May 29, 1586. He graduated in Medicine in 1554 and was appointed city physician to Frankfurt a. M. Among his published works are: "Methodus rei herbariae et animadversiones in Galenum et Avicennam", "Naturalis historiae opus novum plantarum, animalium et metallorum", "Hebeammenkunst nach Eucharius Rösslin", "Aphorismi Hippocratis cum commentario Foësi", and "Kräuterbuch".

The honeysuckle family comprises 150 or more species of the northern hemisphere of both the old and new world.

THE BEAM IN OUR EYE*

JOHN T. T. HUNDLEY, M.D.,
Lynchburg, Virginia

For over a quarter of a century I have been actively concerned with the reaction of the lay public to the medical profession, and with the type and character of services rendered by the medical profession to the public. During that period I have witnessed a definite deterioration in the friendly and trusting attitude of the public to the medical profession, and the development of an attitude of suspicion. I have investigated the factors responsible for the changed public attitudes, and have concluded that there is considerable justification.

This loss of confidence in the medical profession has occurred in spite of the fact that the last half century has witnessed medical advances without parallel in all the preceding period of recorded history. Diseases, which formerly exacted thousands of lives annually, have been eliminated or controlled. Techniques have been developed which permit the exploration and reconstruction of areas of the body hitherto unapproachable. Drugs of miraculous and predictable potency have been made available. Diagnostic procedures of acuteness and accuracy can be utilized. The halt and the lame are conspicuous by their absence. The life span has been lengthened and is increasing every year. The average baby born today can be guaranteed the Biblical three score and ten years of life, practically doubling the expected span in 1900, provided he escapes the dangers of our atomic age and traffic hazards.

In the face of such tremendous progress, and in spite of the wonderful gains, which have been made, the public tends to question, looks with suspicion upon the medical profession. Generally the lay public will place its individual life in the hands of a trusted practitioner without question, but lacks confidence in the medical profession in matters affecting the life or health of the group, the body politic. There are several good and logical explanations for this seemingly incongruous state of affairs.

In the first place there is a world-wide suspicion and resentment of authority, however constituted. That is noted in the family, in religion, in the

world of business, in government. Nothing is sacred. Everything is subject to question. This attitude has resulted in movements which have overthrown institutions which had seemed Gibraltar-like in their strength. Social reforms have been instituted which were opposed by groups so powerful that their defeat seemed impossible. Seemingly visionary concepts have grown into the accepted law of the land. Social and political concepts have developed into world-wide conflicts that shake the very foundations of our political order. We live in a shifting world, a world in which the old order constantly changes, and our social organization is in a state of flux.

Medicine, especially organized medicine, cannot escape these influences, and it has not. In fact medicine is particularly vulnerable. It is at sometime required by everyone, but is administered by a very small group. It is needed at a time of fear, suffering, and sorrow. There is much sentimentality involved, as well as frequent financial sacrifice, so there is great emotional appeal, and the profession concerned with the provision of medical care has not escaped the world-wide resentment against authority and privilege.

Closely connected with the preceding is the widely prevalent concept of the Welfare State. No longer is the cherished tradition of "life, liberty, and the pursuit of happiness" accepted as the basic democratic ideal. In the minds of a growing number of people the idea of security has replaced the traditional ideal of opportunity. Many things, formerly thought of as desirable commodities to be purchased out of earnings and savings, are being considered as inalienable rights. Among these are food, clothing, shelter, educational opportunities, and medical care.

At this point the medical profession reaches a cross-road. Individually, and as members of a great profession devoted to service, the medical profession takes the liberal road. The attainment and the maintenance of health has always been our goal. We are constantly seeking means of preventing illness and disability, and of the rapid cure of that illness or injury which breaks through the barrier of prevention we strive to erect. We seek to provide means whereby our services will be made available to all,

*Address of the President before the annual meeting of The Medical Society of Virginia in Richmond, September 29, 1952.

regardless of ability to pay. No approach to that goal can be too radical to receive our serious consideration.

But the medical profession mortally fears the stultifying suffocation of bureaucracy. It knows well that man is capable of his best only in the free air of private enterprise. It refuses to compromise with those whose naive belief in Santa Claus leads them to advocate compulsory health insurance or any other form of governmental and bureaucratic control of the practice of medicine. The many proposals to solve the problem of medical care by revolutionary measures, have forced the medical profession into a campaign of opposition.

Because of the tremendous pressure which has been exerted to place the practice of medicine in the straight jacket of governmental control; because the problems and factors involved have not always been clear to the public, or even to a large segment of the medical profession; because the objectives have seemed so clearcut and valuable that the dangerous means have been obscured; and because the pressure of urgency has not permitted proper emphasis on the positive; it has often seemed that organized medicine has waged a purely defensive, even an obstructionist battle. That is not true. It has seemed so because the spokesman for organized medicine was reported widely when publicly he opposed some dangerous proposal, but was not quoted or was quoted inconspicuously, when he extolled the glorious accomplishments of medicine.

No profession advocates a higher ethical and professional ideal, and no profession more generally maintains its high standards, than does the medical profession. No group so resents the necessity for entering the public forum to debate the dubious or dangerous proposals put forward by starry-eyed idealists or self-seeking politicians. The medical profession would like nothing better than to devote its energies to the attainment and maintenance of a healthy people, and the constant improvement of the skills of its practitioners. But the medical profession has a public duty, and an obligation, to make its voice heard in those matters concerning which it is best informed and most qualified to speak.

Even in the midst of the battle to protect the health of the people, and the integrity of the practice of medicine, there are problems within the profes-

sion which need attention, and which must not be neglected.

The medical profession knows, and the public suspects, that all is not well. The vast majority of the practitioners of medicine live and practice the high ideals of the profession. But there are exceptions. They are few, but their misdeeds stand out like sore thumbs. As one rotten apple will spoil the barrel, so the misdeeds of one black sheep in a community will counteract the skillful, conscientious, faithful, and unselfish practice of the balance of the profession in that area.

Even in the midst of a fight for our life as a free profession, even when much of our time and energy must be devoted to combating those who would destroy our freedom and our integrity, even when we must raise funds and expend effort to inform the public of the dangers of regimentation and the value of free choice; even in the midst of the great problems we are facing, we cannot, we must not neglect the problems within the profession itself. To do so would be comparable to devoting all our professional energies to public health activities and none to the treatment of personal illness.

We expect and we deserve the confidence and support of the public. In the main we have been given both support and confidence, but to a degree less marked than in previous years. The public has questions which we do not always answer satisfactorily. They see sore spots which the medical profession makes no apparent effort to heal, and a large proportion of the responsible lay public questions the sincerity of our convictions. They ask "why should the regulation of the practice of medicine be left to the medical profession when they make no apparent effort to correct obvious abuses within the profession?" The question is well put, and the medical profession must take definite steps to render an effective answer.

What are the problems, the sore spots within the medical profession, which the public recognizes and resents, and which the medical profession takes no effective measures to correct? They may be enumerated and grouped under several headings.

1. A failure to take a personal interest in the patient and his family.
2. The development of a professional false pride.
3. A tendency to place an excessive monetary val-

uation on the services rendered by the medical profession.

4. An oftentimes selfish interpretation of the principles of medical ethics.

5. Failure to accept as a professional responsibility the acquisition, and the maintenance of the skill and scientific capabilities of our members.

6. The failure to professionally denounce and to discipline the chisellers, the black sheep, the dishonest members of our profession.

7. Lip-service, rather than clear-cut, and definite acceptance of the ideal of the medical as a service profession.

There is overlapping in this list, and books could be written in proof, or in justification of each item. I can rationalize about them, and am often tempted to justify some of these attitudes which, professionally, I know to be wrong.

1. The problem of health, and illness are matters of personal concern. The sick person cares little about rare or unusual diagnosis, or highly technical procedures utilized for the relief of suffering and disability, and in recovery. The family is likewise interested in matters of personal concern rather than technicalities. Generally the family physician recognizes and is sympathetic and cooperative toward this attitude, but the more technical specialist often fails badly. The specialist should realize that during the period of his attention he not only owes the maximum of professional and scientific skill to the patient, but a personal interest in the patient as an individual and a member of a complicated society. As I have dealt with the problems of public medicine, I am increasingly convinced that the most frequent failures of the members of the medical profession are in the realm of personal rather than professional dereliction.

2. The problem of professional false pride is a peculiar one. I speak of the doctor who resents the necessity of explaining in simple terms, apparently feeling that the use of technical jargon creates respect and confidence, who is aggravated by a request for information from a member of the family, the employer, or the insurance company, who considers it beneath his dignity to examine school children or make a talk to the Parent-Teacher Association. In this group may be included the members of the profession who participate in no community ac-

tivities, but when approached for assistance emphasize the tremendous amount of charity work they do as an excuse to free them from all uncongenial demands or duties. This group fails to vote, "politics are dirty," and they can't soil their professional hands. But they are loudly vocal concerning anything which receives their disapproval. They cannot be persuaded to participate in any of the Public Relations activities of their societies. We all know the type. Some are very competent professionally, but they are often intellectually unbalanced and emotionally immature.

3. There is tremendous emotional impact to illness. Anxiety and fright combine to produce a willingness to try any measures, regardless of expense. But with recovery, and a more calm appraisal, after the emergency is past, the attitude toward costs undergoes a change. A new treatment, offering results not obtainable with old methods, a recently developed technique, or a new drug will be accepted, however costly. Too frequently has the medical profession been guilty of charging disproportionately for new or novel measures. Too often have doctors based their fees on "what the traffic will bear", rather than on honest appraisal based on services and need. The practice of medicine should not produce wealth. The conscientious disciple of Hippocrates should expect a reasonable competence which provides adequately for him and his family, allows opportunity for self-improvement and relaxation, and security against the hazards of disability or age, but does not produce wealth.

4. The principles of medical ethics as embodied in the traditional Hippocratic oath, and as altered to fit modern conditions, are designed primarily to prevent harm to the patient through incompetence, dishonesty, or lack of cooperation on the part of the doctor. On the contrary members of the medical profession frequently assume that the principles of medical ethics are designed for the protection of one doctor against the encroachments of another. Our concept of professional ethics should be broadened. We should concern ourselves over the general practitioner who persists in treating a condition for which he lacks training and experience. It should cover the specialist who exceeds his own field and cares for problems out of his domain, or retains a patient referred to him for a particular purpose. It

should regulate and discipline the doctor who knowingly exceeds his professional capacity to hold a profitable insurance case or contract. It should concern itself with the excessive, exorbitant fee for medical services. It should make it incumbent upon a doctor to refer patients where they may best be served, rather than the basis of friendship or reciprocated favors.

5. Following medical school and hospital training, the medical graduate takes the examination for license to practice. The examining board grants him a license which permits him to practice "medicine and surgery in all its branches," or similar terminology. From that time on the doctor is required only to maintain a standard of practice comparable to that practiced in his community, and to avoid gross infraction of law or local ordinance. He may never read a book or magazine, attend a post-graduate clinic or conference, or participate in medical society activities. He may forget everything he has learned and acquire nothing to replace it. His incapacity and deterioration is subject only to lay, not professional standards, and the burden of proof of competence is on the plaintiff not the defendant. That situation is wrong. The medical profession, acting through its official organizations should take the initiative in instituting some reasonable measure of control over the capacity of its members to continue to practice the profession so many are seriously neglecting. Few, if any, conscientious doctors would seriously object to taking a re-examination at certain stated intervals, on matters of current medical interest and progress, to demonstrate their capacity to accept the responsibility for the care of the lay public, which is incapable of judging for itself. Failure to provide for standards to continue in practice, comparable to the standards required to initiate a practice, is indefensible, and by our silence we are encouraging the incapable doctor to continue to dupe the unsuspecting and gullible public.

6. Our standards are of the highest. Our ethics are clear cut. We have committees on Ethics, on Censorship, on Grievance. We boast of our accomplishments and the high level of our ideals, but we too often fail to carry them out. We accept credit for the high level of idealism and service, but we refuse responsibility for the sewers, and we have both. The public judges the medical profession by the jack-leg, the chiseller, the exorbitant charger,

the shady-practitioner, as well as by the noble, conscientious, idealistic leader of the profession. If we claim credit for the shining light, we must accept blame, and take responsibility for the canker within our professional body. We have confused freedom of choice, individual initiative, professional liberty, with license. Liberty and freedom are not gifts, nor are they rights to be expected without conscious effort. They are privileges to be earned, and must be paid for by acceptance of obligation. That obligation is to clean our ranks of those who refuse to abide by the high standards we claim. The Principles of Medical Ethics of the American Medical Association state specifically that "a physician should expose, without fear or favor, incompetent or corrupt, dishonest or unethical conduct on the part of members of the profession". Until the right thinking, honest, fair-minded members of the profession are willing to subscribe whole-heartedly to that standard, we will never rid our profession of those unworthy representatives we are encouraging by our acquiescent silence.

7. The medical, by the very nature of its activities, is a service profession. As a service profession it is dedicated to the prevention and relief of illness, suffering, and physical and mental handicaps. Those services are available to all who need them without regard to race, color, creed, or financial status. The practice of medicine is also an occupation, a vocation, a means of livelihood. There is frequently difficulty in reconciling those two viewpoints. Keeping the ideal of service paramount in a world of mounting costs, and uncollectible bills is at least trying. Dean Pound expressed the thought well when he defined a profession as "an organized calling in which men pursued a learned art and are united in the pursuit of it as a public service—no less a public service because they make a livelihood thereby".

I fear that the ranks of medical students, and of the practicing profession, have received an undue proportion of those who have chosen the career of medicine primarily as a reasonably assured means of attaining an acceptable social and community status and financial competence. That group has never conceived of medicine as a service profession. They are more often specialists, for they see the higher income, the more leisurely life, the greater respect, the office and hospital practice of the specialist, and they contrast that life with the more difficult

and less remunerative life of the rural practitioner or family physician.

Do not get the idea that I am condemning specialization, or that I am placing sole blame on the specialist. I am not, for there are general practitioners whose ideal and God is money. But I fear that specialization, as both cause and effect, has produced a disproportionate number of those who have at best a poor concept of medicine as a profession of service to humanity.

We are members of a noble profession. There is no higher. Our ideals are exalted. Our ethical standards are above reproach. We deservedly are entrusted with the most intimate secrets of our patients. We are given confidence in matters of life and death. Generally we deserve that confidence, and that trust.

But confidence and trust impose tremendous responsibilities on the medical profession. The responsibilities and obligations which are entrusted to us, and which we assume, are unique. We deal in a commodity which the lay public cannot evaluate. The body of knowledge encompassing the practice of medicine has grown far beyond the capacity of any one man to assimilate or to utilize. It is that tremendous growth in medical knowledge which has made specialization necessary. If no one man medically trained, can judge with authority all the

various fields of medical practice, it becomes preposterous to assume that the lay public can evaluate any aspect of the practice of medicine.

That means that the medical profession, and organized medicine in particular, must assume two responsibilities. First, the individual practitioner must be constantly alert, and everlastingly conscientious, to assure that his patients are receiving from him good, efficient, scientific, sympathetic and ethical care. And second, that the medical profession provides a guarantee to the lay public that those members of our profession protected by the cloak of membership in medical organizations, be likewise efficient, capable, honest and ethical. It takes courage to discipline or to expel an incompetent or dishonest member of our profession, but the public has a right to expect of us that sort of courage, and we of the medical profession have no right to expect the confidence and trust of the public unless we are willing to face courageously that challenge.

Ours is a great profession, which demands of each of us great accomplishments. Not the least of those demands is self-criticism, honest evaluation, and the courage to purge our profession of our faults and our weaknesses.

As we clean our own house, as we correct our faults, we will regain, and we will deserve the confidence, the respect, and the loyalty that has been considerably lost in recent decades.

SAMA Honorary Memberships Open to Physicians.

"Keep up with the young men who are keeping up with you" is the theme of a fall campaign now under way by the Student American Medical Association to encourage physicians to join the organization as honorary members. This new membership category was created at the request of doctors who wish to keep in touch with the student side of medical education, reports David Buchanan, national

president.

Honorary membership, with yearly dues of five dollars, entitles the physician to a subscription to the monthly 72-page Journal of the SAMA as well as participation in the annual convention and other activities of the association. Physicians and friends of the medical student interested in becoming honorary members should contact Mr. David Buchanan, Student American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

BILATERAL POLYCYSTIC OVARIES ASSOCIATED WITH
STERILITY, AMENORRHEA AND HIRSUTISM*

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The subject of polycystic ovaries associated with a clinical syndrome is potentially confusing, for we are suddenly asked to believe that a condition which is not mentioned in most standard texts and which until recently has not been recognized in most major clinics not only exists but occurs commonly enough for individual investigators in various parts of the world to accumulate sizeable personal series. I will attempt to present the evidence which has apparently

The clinical syndrome of amenorrhea, sterility and hirsutism associated with the pathological findings of bilaterally enlarged polycystic ovaries of a type to be described later was first reported by Stein and Leventhal¹ in 1935 from the Michael Reese Hospital with a description of seven cases.

As originally described, the syndrome consisted of sterility and amenorrhea. Later it was extended to include certain cases of menstrual irregularity which

TABLE I
REPORTED CASES OF STEIN-LEVENTHAL SYNDROME

Author	Number Cases	How Treated	Menstrual Outcome			Failure	Pregnancy	
			Improved				Number	% of Sterile Patients
			%	Regular	Irregular			
Stein 1949	75 (28 single)	Wedge Resection	89%	67	—	8	26	65%
Allen 1945	7	Wedge Resection (cul-de-sac)	—	—	—	—	5	71%
Bailey 1937	17 (11 single)	Wedge Resection plus Back to Back	75%	13	—	4	1	17%
Ingersoll & McDermott 1950	2	Biopsy of Ovary	—	—	—	2	—	—
	13	Wedge Resection	—	13	5	1	—	—
	6	Split and Back to Back	—	—	—	—	—	—
Meaker 1950	65 (20 sterility only)	Wedge Resection	78%	27	6	9	35	70%
Seigler 1950	26	Wedge Resection	—	14 (8 not followed)	—	—	18	69%
Leventhal & Cohen 1951	10	Wedge Resection	—	10	—	—	4	80%

recently convinced many prominent gynecologists that the condition is valid.

*Read before the annual meeting of The Medical Society of Virginia at Virginia Beach, October 7-10, 1951.
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was thought to be an early stage of the process. Hirsutism was observed in 50% of the patients. There was clinical as well as pathological evidence of ovulation failure. Pathologically, the ovaries showed bilateral enlargement to 2 to 5 times normal size

and were covered by a thick tunica which looked like the skin of an apple on cut section and beneath which were compressed many follicle cysts. The surface was quite smooth and pale. Subsequent authors emphasized the compression of the ovarian stroma due to entrapment of the cysts under the tight surface⁵. More recently, Leventhal⁸ has emphasized the hyperplasia of the theca interna of the multiple follicles and the frequent luteinization therein.

Stein and Leventhal¹ postulated originally that the difficulty was mechanical in that the thick tunica blocked ovulation. They felt that by removing a wide wedge of this surface the ovulation could be accomplished. Wedge resection of both ovaries yielded good results in restoring menstrual function in the first seven cases and two pregnancies resulted.

By 1949 Stein³ had extended his series to 75 cases. It will be noted that 28 single girls appear in this group and therefore that sterility was not a factor. They were included because in the opinion of the author the condition was progressive and threatened their future welfare. All cases, of course, had bilateral polycystic ovaries of the type described above. 89% showed improved menstrual function with most completely cured. 26 of the sterile patients became pregnant. In no case did polycystic ovaries recur over prolonged observation. There were three patients who developed inflammatory adhesions and simple unilateral cysts which required operation. Two were corpus luteum cysts. The patients with hirsutism (50%) showed slight regression following operation but the progression was terminated.

TABLE II
Stein-Leventhal Syndrome

<i>Clinical</i>	<i>Pathological</i>
Sterility	Ovaries Enlarged Bilaterally 2 to 5 x
Menstrual Irregularity (Amenorrhea principally)	Pale, Smooth, Thick Covering Retaining Multiple Cysts
Hirsutism (50%)	Stroma Dense and Compressed. Hyperplasia of Theca Interna with Frequent Luteinization
Ovulation Failure	

One is rightly suspicious of a condition seen by one person so frequently and not by the vast bulk of practicing physicians. There are other witnesses. In discussing Stein's paper in 1945, Edward Allen reported 7 cases. These were treated by wedge resection through the cul-de-sac. His results were

good in obtaining pregnancies for sterile women. In 1937, Bailey⁴ reported 17 cases from Manchester, England. He, also, postulated entrapment of the follicles and went one step farther to try to obviate the condition. After splitting the ovary and resecting a wedge, he sewed the ovaries back to back. His restoration of menstrual function was good but pregnancy rate low, probably because of extensive adhesion to the exposed raw ovary.

In 1950 a report came from the Massachusetts General Hospital by Ingersoll and McDermott⁵. They found in the pathological and surgical files 21 typical cases over a 12 year period. They had been treated in various ways. Two cases had undergone exploratory laparotomy for investigation of hirsutism. The ovaries were biopsied and the adrenals palpated. The biopsies were found on review to show the typical changes described above. There was no relief of the amenorrhea, presumably because an inadequate amount of ovary was removed. 13 cases were treated by wedge resection and 6 by splitting with some resection and sewing back to back. 18 showed some improvement. There was no information about pregnancy outcome.

Meaker⁷ reported 65 cases allegedly of the same condition. He stretched the clinical requirements to include 20 cases who complained of sterility only. All cases, of course, had the characteristic ovaries. It must be admitted that relief of sterility in 14 of those 20 patients is suggestive that some good was accomplished. 35, or 70%, of the sterile patients in the entire series became pregnant. His relief of menstrual abnormalities was comparable to other reports.

During the discussion of this report, Seigler¹⁰ reported 26 cases with 69% pregnancies. Menstrual outcome in all cases followed was improved.

In 1951, Leventhal and Cohen⁸ reported 10 cases collected from the Michael Reese Hospital between 1945 and 1949. All showed restoration of regular menstrual function. 4 of 5 sterile patients conceived.

CASE REPORT

A case recently treated here exemplifies well this condition. The 23-year-old patient in question I first saw in 1950 complaining of sterility of 4½ years' duration and increasingly long periods of amenorrhea. On questioning, she reported that the increasingly heavy hair on her lip, chin, arms and legs was a

cause of concern. Office records show she first sought relief of sterility 3 years ago, in 1948, after 1½ years of marriage. Her periods had begun normally at 12 and been regular until marriage at 18, after which periods became farther and farther apart and scantier.

Pelvic examination then, in 1948, was recorded as normal. Insufflation subsequently showed the tubes normally patent; Huhner's test showed sufficiently rugged sperm. BMR was normal. Endometrial biopsy on the 27th day of a cycle showed non-secretory endometrium and therefore no ovulation. She then underwent several series of hormone injections apparently intended to produce ovulation. A preparation known as synapoidin was used and, of course, failed. This was followed on two occasions by transcervical insemination.

In September of 1949, after skipping a period, she bled too heavily and a curettement was done. The endometrium was non-secretory and atrophic. Six months later she was told somewhere she had a cyst of the right ovary but declined the offer to have the organ extirpated.

On physical examination in June of 1950, she appeared to have a stocky, square, masculine habitus with the moderate increase of dark hair described above. The clitoris was not enlarged. The pubic hair was masculine in distribution. The uterus was normal size. The right ovary was twice normal size and free. The left ovary was 1½ times normal size. Endometrial biopsy the following month, after three months of amenorrhea, showed again early proliferative endometrium. During five months of observation, she had one small period four months from her previous one. Both ovaries remained 1½ to 2 times normal size. Glucose tolerance test was normal. BP was normal. 17-ketosteroid excretion was 21 mgm./24 hrs. Fasting eosinophile count was 38/cu. mm. and 4 hours after ACTH the count was 12/cu. mm. The figures correspond with low normal for this laboratory.

X-ray of the spine showed moderate decalcification with definite fishboning of the upper thoracic vertebra. Ca., Phos., total protein and A/G ratio were normal. The sella turcica was normal.

In November of 1950, laparotomy was undertaken with a provisional diagnosis of Stein syndrome. The ovaries were found to be twice normal size, smooth, pale and characteristically polycystic. A wedge of

each ovary was resected. The adrenals were palpated and no enlargement detected. Microscopically, the characteristic changes described above were found.

Following operation, the patient menstruated regularly every 32 days. She conceived during the third cycle following operation. Pregnancy progressed normally until the 24th week when she suddenly miscarried a normal 450 gm. fetus.

Following this she has had normal periods, properly timed, and temperature charts indicate ovulation. At last report she was progressing normally in the 31st week of a second pregnancy. She conceived during the second month of exposure.

The 17-ketosteroid excretion had returned to normal in May, 1951, being 8.8 mgm./24 hrs. The X-rays of the spine show no change since operation. The hirsutism is improved definitely.

DISCUSSION

Other information which confirms and supplements the original observation about the clinical picture of this condition is available from the combined series reported above. The usual age distribution is from 18 to 28 and the typical case has a normal onset of menstruation with irregularities, often with excessive bleeding, developing in the teens, followed by periods of amenorrhea of increasing duration. The BMR is usually normal. Glucose tolerance curves and X-rays of the sella are normal.

17-ketosteroids were normal in 9 cases determined at the Massachusetts General Hospital. However, George Smith⁶, writing in a recent endocrinology book, states that the 17-ketosteroids may be normal or elevated in this condition. The case just cited would seem to bear this out. Leventhal⁸ found pregnandiol excretion, elevated in two cases, returning to normal after wedge resection of ovaries. In two other cases pregnandiol excretion was normal.

The endometrium obtained on three occasions in the case just mentioned shows the typical early proliferative endometrium resulting from absence of ovulation, and suggests low circulating estrogen. The absence of breast development and secondary sex characteristics in cases whose symptoms date from puberty also suggests low estrogen. The osteoporosis in our case may be due to this. Rarely, the reported cases have shown secretory endometrium or histological evidence of a corpus luteum, but this is very

uncommon. The usual absence of any secretory changes would suggest progesterone deficiency. However, the finding of elevated pregnandiol in 2 of Leventhal's cases points to the possibility of progesterone production in some cases at least. These two cases were the most marked hirsutes. Progesterone in large amounts is known to be androgenic. The usual lack of secretory changes in the endometrium could conceivably be due to the lack of alternation of estrogen and progesterone.

Pending further controlled investigation of steroid excretion in cases of the Stein syndrome, any explanation of it must be a guess. At present, it would seem that in some way the pituitary initiates an abnormal ovarian function. In a study of 40 women who had suffered prolonged intracranial pressure, Kraus and Spivak found hyperplasia of the anterior pituitary consistently and bilateral polycystic ovaries in 82%. Reynolds¹¹ produced cysts in the ovaries of rabbits by administration of gonadotropins. However, the F.S.H. has been reported normal in the 12 cases so far reported where this determination has been done.

It would seem most reasonable to suppose that the malfunctioning ovaries in this condition produce a variety of closely related steroid hormones sometimes detectable as 17-ketosteroids, sometimes as pregnandiol, sometimes producing hirsutism. The hyperplastic, frequently lutenized, cells of the theca interna would seem the most likely site of production. Whether the thick tunica plays a mechanical role in the malfunction cannot be said. All this is sheer speculation. The most accurate estimate seems to be that it makes little sense but it works.

Among 81 pregnancies following wedge resection in sterile patients reported by Stein and by Seigler, the abortion rate was higher than average. 17½% of Stein's and 17% of Seigler's⁷ patients aborted, compared to the general expectancy of 10%.

DIAGNOSIS

The diagnosis is aided by the clinical history including positive proof of repeated ovulation failure by endometrial biopsy and temperature charts. But it is absolutely essential to prove the presence of bilaterally enlarged ovaries. This may often be done by palpation alone, but Stein reports that in almost one-half of his cases this was not possible and he used an ingenious technique he calls pneumogynecography. The technique consists of introducing

1000 c.c. of CO₂ into the peritoneum by transuterine insufflation or abdominal puncture and taking X-ray in modified knee-chest position. The Boston investigators rely on the culdo-scope for direct visualization of the ovaries. The condition is too rare to make laparotomy to look at the ovaries good practice when their size cannot be determined.

TREATMENT

The most successful method of treatment has been the wedge resection of one-half to two-thirds of both ovaries. Cysts remaining probably should be punctured from the inside of the ovary. If rubber-shod clamps are used, the ovarian vessels should not be constricted more than twenty minutes.

A word of caution must be appended to this discussion. Follicle cysts *per se* have little or no clinical significance. It seems probable that more harm is still being done by cutting into ovaries containing them than will be outweighed by the good done patients with the Stein syndrome. If the spreading knowledge of this condition leads to an increase in unwarranted ovarian surgery, it is best unheard of.

CONCLUSIONS

1. A clinical and pathological entity involving bilateral polycystic ovaries with a thickened tunica albuginea exists.
2. It is correctable in a large number of cases by wedge resection of both ovaries.
3. A case exemplifying this condition has been presented. The association of osteoporosis has been reported for the first time. Elevated 17-ketosteroid excretion returned to normal following surgery.
4. The rarity of this condition makes essential exact diagnosis to prevent unnecessary unprofitable and harmful operations.

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New Drug for Treatment of Certain Types of Epilepsy.

A new anticonvulsant drug—hibicon (trade mark)—has proved effective in the treatment of grand mal and psychomotor epilepsy, it was reported in the Archives of Neurology and Psychiatry, published by the American Medical Association.

A compound differing in chemical nature from other modern anti-convulsant drugs, hibicon has been found singularly free from toxic reactions and from untoward side-effects, according to Dr. C. D. Hawkes, of the department of neurology, University of Tennessee College of Medicine, Memphis.

He based his conclusions on a two-year study of 59 patients suffering from chronic epilepsy who were given the new drug. Convulsant seizures of 39 of the patients were adequately controlled by the drug, which was employed alone in all but 11 cases; in the 11 patients, supplementary barbiturates were used.

"In 23 of the 39 patients whose seizures were satisfactorily controlled by hibicon, the results were rated as excellent," Dr. Hawkes pointed out. "These patients were seizure-free or had only rare attacks. In 16 patients, the control was rated as good; these patients had one to four attacks a month, but were nevertheless greatly benefited.

"In the remaining 20 patients placed upon hibicon therapy during the two-year trial period, the compound failed to hold the attacks below one a week, and the result was classified as poor. It is only fair to state that in eight of these patients the seizures have never been adequately controlled by any anticonvulsant drug or combination of drugs.

"The employment of hibicon appears to widen the scope of the pharmacological therapy of chronic epilepsy, since it has successfully controlled the seizures in some patients whose attacks have failed to respond to all other present-day anticonvulsant drugs."

According to Dr. Hawkes, hibicon also was found to be beneficial in the treatment of mixed forms of epilepsy upon the addition of small amounts of barbiturates, and has been proved effective in the treatment of idiopathic and symptomatic epilepsy. Petit mal epilepsy, he added, is not benefited by the drug.

Hibicon is a white crystalline solid which has a low solubility in water, but is readily absorbed after oral administration. It has a wide safety margin, and side-reactions are uncommon and usually minor. The effective range of the adult dose appears to be from one to two grams three or four times a day. In small children, a dosage of one-fourth to one-half gram three or four times a day has been found satisfactory.

THE SUCCESSFUL TREATMENT OF TWO CASES OF GOLD DERMATITIS WITH ADRENOCORTICOTROPHIC HORMONE (ACTH) AND CORTISONE

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and

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The value of British anti-lewisite (BAL) in the treatment of some cases of gold dermatitis has been recognized by many observers during the past several years. Favorable results were not always obtained, however. Cohen and others¹ reported 3 cases of gold dermatitis treated successfully with BAL. Davison² successfully treated 3 early cases. In England, Simpson³ treated 2 cases, 1 of nine months' duration, and obtained dramatic results. Margolis and Caplan⁴ noted only moderate improvement in 2 cases of long-standing generalized exfoliative dermatitis resulting from aurothioglycolanilid (lauron). In another case of mild dermatitis resulting from lauron, no appreciable benefit was obtained. Macleod⁵ reported 11 cases of gold dermatitis treated with BAL and concluded that the drug probably influenced the course favorably.

From these reports, one gathers that BAL is a potent agent in combating gold dermatitis, but results have not always been satisfactory.

Recently Steinberg and Roodenburg⁶ reported a case of gold dermatitis treated successfully with adrenocorticotrophic hormone (ACTH). Otherwise, there has been little reference in recent literature in the treatment of gold dermatitis with either ACTH or cortisone.

The purpose of this paper is to report 2 cases of gold dermatitis, one of whom improved on ACTH and the other on alternating courses of cortisone and ACTH. BAL was employed in both cases and in each was a therapeutic failure.

CASE REPORTS

Case 1: Mr. G. N., a 54 year old white male, was admitted to the Arthritic Section of the Medical Service, McGuire Veterans Administration Hospital, on September 5, 1950, with the chief complaint of generalized rheumatoid arthritis of 20 years' duration and with an exacerbation during the past 9 months. There had been intermittent, severe attacks of heat, redness, tenderness, and swelling of the peripheral joints occurring several times a year. For several years there had been redness, scaling, and itching of the lower legs and about the fingers. A diagnosis of psoriasis had been made by the family physician.

The temperature, pulse rate, and blood pressure were normal. The right wrist was enlarged, tender, and limited in motion both for flexion and extension. Pain on full flexion and extension of the left wrist and a slight flexion deformity of both elbows were present. There was a moderate restriction of motion of both shoulders, particularly for abduction and external rotation. The skin over the anterior surface of both legs showed numerous red, scaling areas of dermatitis which were considered to be psoriasis.

Laboratory data: hemoglobin 13.4 gm., leukocytes 7,000, 60% polymorphoneutrophils, 31% lymphocytes, 4% monocytes, 1% eosinophils. The urinalysis was normal. Cardiolipin negative. The E.S.R. was 14 mm. in 1 hour (Cutler method).

The admission diagnosis was that of psoriatic rheumatoid arthritis, early, moderately active (stage 1, class 3).

On September 15, 1950, treatment with intramuscular injections of aurothiomalate (myochrysine) was started. By November 3, 1950, a total dose of 250 mg. of the gold salts had been administered.

At this time, a maculopapular, erythematous rash was first noted on the neck, face, and wrists. It was first thought that this might be a contact dermatitis

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and the lesions were treated with soothing preparations, and injections of gold were discontinued. Gradually the dermatitis spread to involve almost the entire body, being more marked in the flexor creases (Fig. 1). A skin biopsy showed an exfoliative type of dermatitis.

ment in the dermatitis. After 7 days the dose was again decreased to 75 mg. daily, and then to 50 mg. During this time, the dermatitis showed a gradual relapse and on January 18, 1951, because of an absolute eosinophil count of 784 cells per cmm., it was decided to change the treatment to

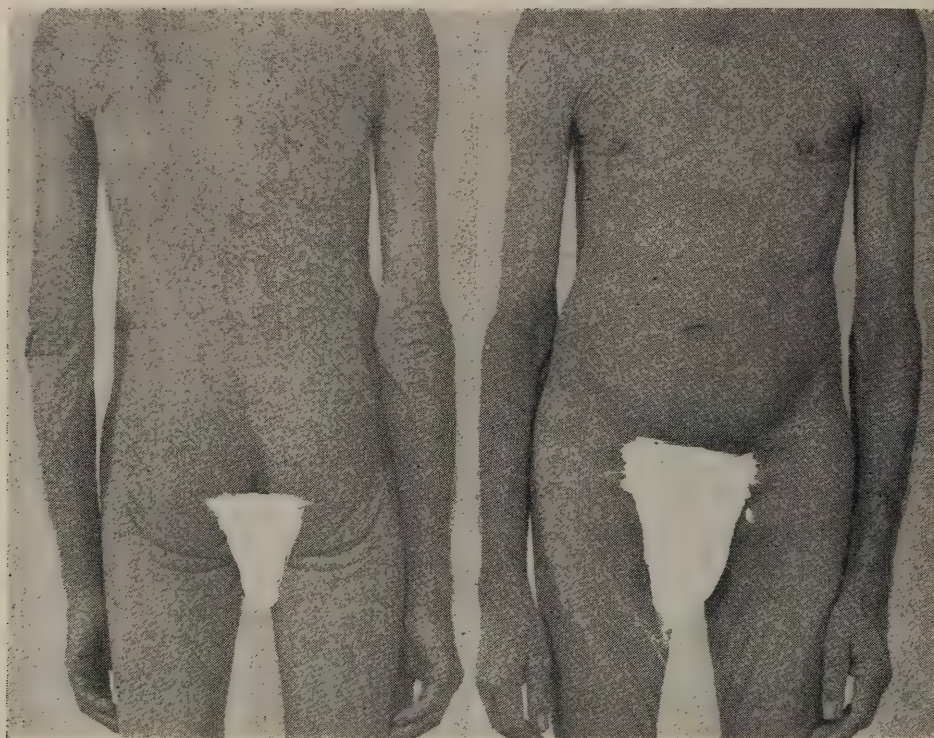


Figure 1.
Case 1, January 20, 1951. Severe generalized exfoliative dermatitis.

On December 2, 1950, treatment with BAL was started on a dose schedule of 150 mg. intramuscularly every 4 hours for 2 days, and then 150 mg. twice a day for 10 days. The skin lesion failed to improve.

In view of the steady progression of the dermatitis, it was decided to start treatment with cortisone (Chart 1). On December 13, 1950, 300 mg. of this drug was given in a dose schedule of 100 mg. every 8 hours, and the following 2 days he received 100 mg. every 12 hours. Thereafter 100 mg. was given intramuscularly each day. Within 48 hours improvement was noted with regression and clearing of the dermatitis, and improvement in strength and appetite. However, the skin lesion did not disappear completely and on December 27, 1950, when the dose of cortisone was reduced to 75 mg. daily, there was prompt exacerbation of the dermatitis. The dose was then increased to 100 mg. daily on December 30, 1950, with slow but definite improve-

ment in the dermatitis.

ACTH. ACTH was started on January 20, 1951, in a dose schedule of 10 mg. every 6 hours. No significant improvement was noted after 2 days and the dose was then increased to 25 mg. every 6 hours. No improvement was noted on this schedule and on February 5, 1951, ACTH was discontinued and cortisone was started again.

On this date, 300 mg. of cortisone was given in a dose schedule of 100 mg. every 8 hours and on the next 2 days he received 200 mg. in a dose schedule of 100 mg. every 12 hours. Thereafter the dose schedule was maintained at 100 mg. daily. At this time, in order to determine the excretion rate of gold, BAL was given over a 3 day period. A 24 hour specimen at the end of this time was negative for detectable gold.

Cortisone was discontinued on February 19, 1951, because of the slow response, and ACTH was again given over a 3 day period for a total dosage of 250

mg. On March 3, 1951, it was noted that the skin had become considerably worse with increased scaling, several areas showing a tendency to weep. Cortisone was resumed on March 5, 1951, in a dose schedule of 100 mg. daily with some slight im-

joints, proximal interphalangeal joints, knees, ankles, and feet were involved. For several months there had been a marked exacerbation of the arthritis. For 17 weeks cortisone had been given in a daily dose averaging from 150 to 250 mg.

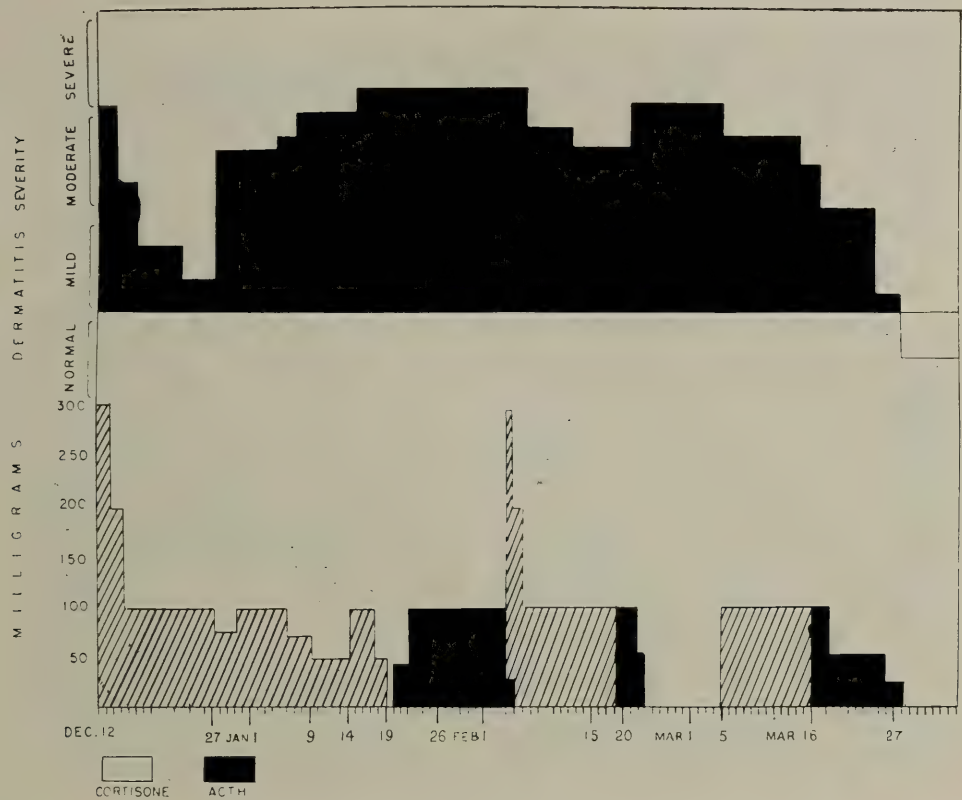


Chart 1.
Case 1 illustrating response of skin to treatment with ACTH and cortisone.

provement of the skin within 24 hours. Following this, however, the condition remained stable and no improvement was noted. Cortisone was discontinued on March 16, 1951, and ACTH started again on a dose schedule of 25 mg. four times a day for 2 days, then 25 mg. twice a day, and finally 25 mg. each day. Between March 16, 1951, and March 28, 1951, a total dose of 700 mg. was given with marked improvement in the exfoliative dermatitis, and the drug was discontinued (Chart 1).

Following this there was no relapse and the patient was discharged from the hospital June 14, 1951, with no evidence of any skin lesion. When last examined, August 20, 1951, the skin was normal (Fig. 2).

Case 2: Mr. P. N., a 53 year old white male, was admitted to the Arthritic Section of the Medical Service, McGuire Veterans Administration Hospital, on May 16, 1951, with rheumatoid arthritis of 11 years' duration. The wrists, metacarpophalangeal

On admission to the hospital, the physical illness was complicated by a depressed mental state which was thought to be a complication of cortisone administration, since it had developed during therapy. The blood pressure was 140/80, the pulse rate 110 per minute, and the temperature 100 degrees Fahrenheit. There was swelling with increased heat, tenderness, and limitation of motion of the wrists, metacarpophalangeal, and proximal interphalangeal joints. The knees were markedly swollen with increased heat, tenderness, and a moderate limitation of flexion and some limitation of extension. The left ankle was swollen, tender, and red. Good motion was present in the hip joints. A mild, pitting edema was present over the left ankle and dorsal surface of the left foot.

Laboratory data: hemoglobin 12.1 gm., leukocytes 14,400, 67% polymorphoneutrophils, 24% lymphocytes, 8% monocytes, and 1% eosinophils. The E.S.R. was 36 mm. in 1 hour (Cutler method).

The serum sodium was 142 mEq./1, and serum potassium 5.7 mEq./1. The electrocardiogram revealed a sinus tachycardia.

The admission diagnosis was rheumatoid arthritis (stage 3, class 4).

Cortisone was discontinued because of possible

June 7, 1951, in a dose schedule of 150 mg. every 4 hours for 4 doses, and then 150 mg. daily. The rash continued to increase in severity and spread to involve the entire body. Because of this progression in the face of therapy, BAL was discontinued and ACTH was restarted on June 9, 1951, in a dose

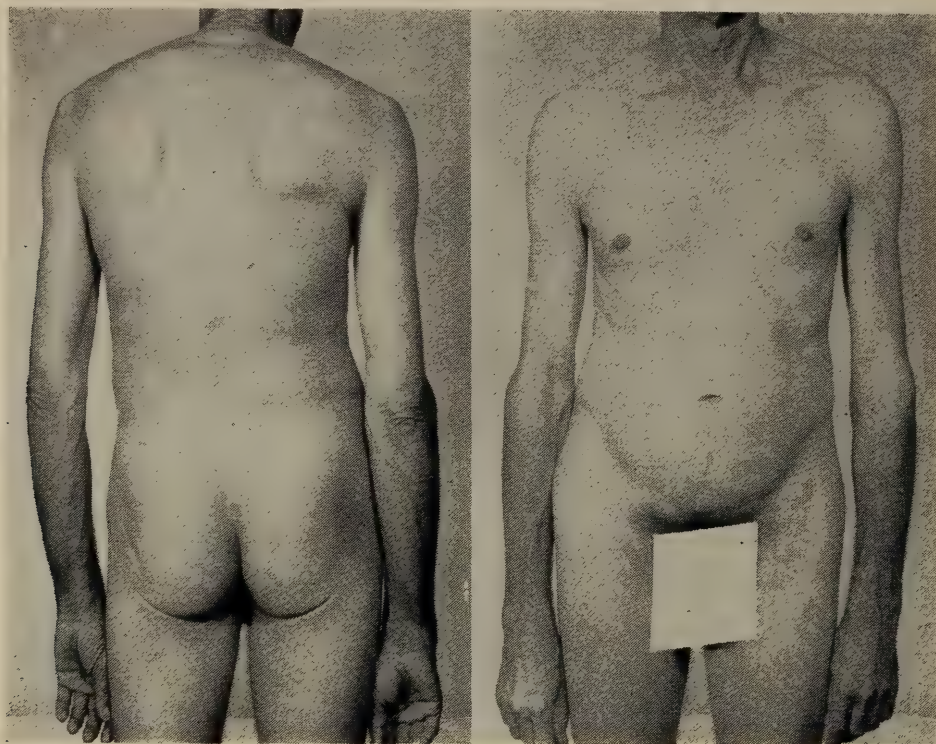


Figure 2.
Case 1, August 20, 1951. Normal skin.

adrenal suppression and treatment with ACTH was started on May 17, 1951, on a dose schedule of 25 mg. every 6 hours. This controlled the joint pain, tachycardia, and temperature elevation.

It was then decided to employ one of the gold salts and gradually decrease the dosage of ACTH until it could be discontinued. Ten mg. of aurothiomalate (myochrysine) was given on May 24, 1951, and a second dose of 10 mg. on June 1, 1951. On May 24, 1951, the ACTH was decreased to 15 mg. every 6 hours. This resulted in a prompt relapse of his arthritis with severe joint pain, temperature elevation to 102 degrees Fahrenheit, sinus tachycardia of 110, and a leukocytosis of 16,000.

On June 5, 1951, it was first noticed that the patient was developing a papular erythematous rash of the chest, groin, feet, and legs. The ACTH was discontinued on this date and no further gold was given. The rash was thought to be a manifestation of gold toxicity and BAL was started on

schedule of 25 mg. every 6 hours. The rash began to improve within 18 hours and had completely disappeared within 3 days except for a few areas of scaling which disappeared within 1 week. The patient's skin has since remained normal.

DISCUSSION

In the first case, BAL was employed with no improvement. The dermatitis spread and increased in severity to such an extent that the patient was considered seriously ill. Cortisone was started with dramatic initial improvement, but with exacerbation when the dose was decreased. ACTH initially met with no significant improvement. When both drugs were discontinued, however, there was a marked exacerbation of the dermatitis. When ACTH was used a second time, there was a marked decrease of the dermatitis with subsequent complete clearing of the skin.

In the second case, BAL was employed for only

2 days, but, during these 2 days, the rash rapidly increased in severity. After treatment was started with ACTH, there was improvement of the dermatitis within 18 hours and disappearance after 3 days of treatment.

CONCLUSION

1. Two cases of gold dermatitis are presented, both the result of intramuscular treatment with aurothiomalate (myochrysine).

2. The first case failed to respond to treatment with BAL but subsequently responded well to alternating courses of ACTH and cortisone.

3. The second of these also failed to respond to treatment with BAL but healed rapidly with ACTH.

4. The favorable response of these 2 cases indicates that ACTH and cortisone influence favorably the course of gold dermatitis, and are useful drugs in the treatment of this condition, especially in those

cases which fail to respond to treatment with BAL.
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New Method for Weighing Bedridden Patients.

A simple apparatus for weighing patients who are confined to bed was described in the August 30 Journal of the American Medical Association. Weight changes are important factors in many medical cases. In an article written by Dr. John V. Galgiani, of the Hospital for Women and Children, San Francisco, the apparatus was described as a lifting lever and scales hung over the patient's bed from any type of overhead frame.

A lifting board, a 2 x 6 foot sheet of $\frac{3}{4}$ inch plywood, is slid under the patient, and four lifting wires are attached to the corners of the board by snap hooks. The weighing apparatus with the patient is raised an inch or two above the bed and the weight determined, he stated, adding:

"This apparatus has been found to be inexpensive, easily constructed, and accurate and safe in operation. It was built in the maintenance shop of a hospital and required only materials readily available."

THE ROLE OF THE CLEFT PALATE TEAM

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For the past five years it has been apparent that there has been a trend towards plastic surgery, which is proof that people have developed a great many anxieties concerning their physical appearance. On the other hand, there has been a trend in surgery to reach a high point of technical dexterity, and the results of this surgery, cosmetically, have greatly improved as compared to former years. There does seem to be, however, a tendency to concentrate so much on the defect and a perfect anatomical result that the patient as a whole is sometimes forgotten. Cases cannot be surveyed by the surgeon only as a perfect apposition of the parts, as he must consider functional developments or even functional faults that will follow his application of surgery. As a result of this it behooves all of us to consider these patients as a whole and therefore necessitates going far afield, enlisting the aid of the allied specialties, so that, in the end, we have a completely rehabilitated and normal individual. This individual could not attain this perfection by the efforts of any one individual; by all working together as a team, perfect results, both anatomically and functionally, can be attained.

It has been estimated that cleft palate and hare lip tend to occur approximately once in every 900 births. Staige Davis states the incidence about once in 915 births, while Peron in Paris gives the figures as once in 942 births. In Denmark Fogh-Anderson finds a somewhat higher incidence of 1.5 per 1000. It is therefore the most frequent congenital defect which we must deal with, and the disfigurement is as great as any. It tends to occur more frequently in boys than in girls. Warren B. Davis gives a proportion in a series of cases of 56% boys and 44% girls. In a series of 252 cases done in England, 55% were boys, and 45% girls. It occasionally occurs more than once in the same family. In the 252 cases in the English series it occurred twice in three families.

Little is known as to the cause of congenital clefts of the palate and the lip, although various suggestions have been put forward. Heredity and physiological deficiency contribute to a large degree and many mothers attribute it to some shock experienced

during pregnancy. To refute this, however, it is generally found that the alleged shock occurred after the tenth week of embryo life, by which time the processes involved should have been united. This is therefore easily discounted.

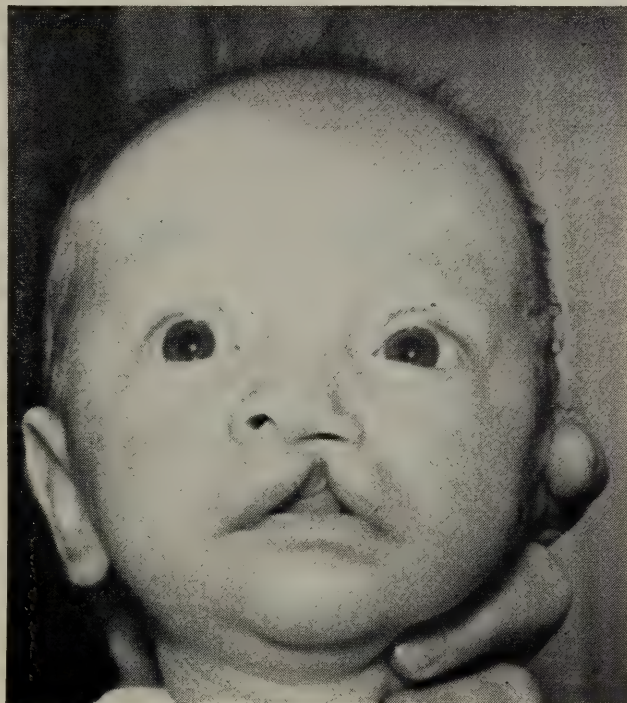
Many investigators have studied this question and agree in thinking that heredity plays an important part in the occurrence of clefts, although the defect in the family history is not necessarily a cleft palate and may have been some other congenital malformation, such as spina bifida, club foot, or absence of upper lateral incisor teeth. Other factors examined by investigators include the age of the mother, her mentality and health, extreme differences in age of parents, and environment. Staige Davis points out that there is insufficient evidence to show that any of these has a determining influence on the incident of cleft palate. However, when considering the etiology of this condition in any large series of cases, it becomes apparent that it tends to occur more frequently among the poorer classes.

The problem of hare lip and cleft palate is not a surgical one that can be successfully completed by the surgeon alone. In most cases the treatment requires the co-operation of the surgeon, the dental surgeon, and the speech therapist. In spite of the fact that it is the objective of the cleft palate surgeon to create an anatomically and physiologically correct palate, there are failures. Many perfect anatomical results may be obtained, but physiologically or functionally, many of these cases will be failures. Naturally, it is the objective of the surgeon to obviate the need for other types of training, but this is not always attained. In a large proportion of cases, with the present day methods, children, submitting to successful operations before faulty speech habits have been allowed to develop, acquire normal speech during natural growth without special aid. However, until these ideal conditions become universal there will be those cases where operative procedures have been delayed and for whom surgery alone is insufficient for the achievement of normal speech. The surgeon who undertakes treatment in early infancy should realize fully the immense responsibility he is shouldering, for, by his efforts, a whole life may

be made or marred. He should have before him three objectives: namely, that his patient should look well, his patient should eat well, and most important, that his patient should speak well. There can be little doubt that the last named is the greatest of the three. A patient may do very well in life without good looks and the dental surgeon can do much to correct deficient masticatory function, but without clear speech, few people will proceed far and even the best efforts of the expert speech therapist will be of little avail if the palate has been ruined by ill-planned or badly executed surgical procedures. As a rule an ordinary cleft confined to the soft palate presents a relatively simple problem of closure in a young child, yet it is just such cases that the surgeon often fails to provide a mechanism capable of producing good speech. He carries out an approximation procedure, he reduces tension on his suture lines by fracturing the hamular processes and so reduces the pull of the tensor palatae muscles, but he often fails to produce any retroposition of the soft palate as a whole. His attention so many times is concentrated on the cleft alone that he fails to see the often large oronasal pharyngeal isthmus which the repaired palate will be called upon to close. These simple cases offer the best possible material for the provision of a complete patient and if operation is combined with proper follow-up procedure and is done at a time of life before definite speech habits have developed, there should be little need for more training other than that available in the child's home or family circle. At this time of life surgery causes little or no disturbance of tooth development. Any defects that now remain are concerned only with those dependant upon insufficiency of the oronasal sphincter. We consider three years of age to be the optimum time for closure of the palate, and hare lips, any time after birth when the infant has attained ten pounds or more.

Progressing from the simple cases (Illustration #1) to the most difficult are those complete bilateral clefts of the lip, gum, and palate (Illustration #2) associated with gross skeletal deformity. Treatment in these cases must necessarily be of several stages. Repair of the cleft lip and the floor of the nose brings the case to that of the cleft palate. In most cases, however, there is a great deal of skeletal deformity; partly as a result of this and unavoidable surgical trauma, teeth erupt

irregularly and scar tissue contraction may make it difficult to obtain the requisite degree of retro-position to provide efficient oronasal sphincteric control.



Illus. 1—Simple unilateral cleft.

Also, trauma to growth centers may be an important factor. It is in these cases that the orthodontist can play a valuable role by correcting malposition of



Illus. 2—Complicated bilateral cleft and palate.

teeth to improve both masticatory function and speech. Physical appearances can be greatly im-

proved by dental prosthetics and appliances (Illustration #3).



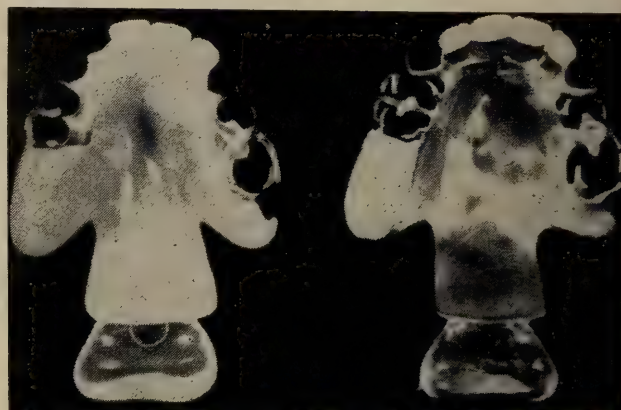
Illus. 3—Child, age 2½ years with speech aid in position.

Many operations have been developed which adequately satisfy most of the cases. Great progress has been made in the treatment of the child. Recently an operation has been devised on the pharynx to assist in closure of the nasal pharyngeal isthmus during speech. In this operation the salpingopharyngeus muscle on each side of the pharynx is dissected from its lower end and swung upwards toward the midline to unite in a ridge across the posterior wall of the pharynx at a level slightly higher than the ridge of Passavant. The muscle action of this newly formed ridge is preserved and assists considerably in achieving the oronasal closure so necessary for speech. In 1925 Dorrance of Philadelphia published details of a procedure which he described as the "push-back" operation. This consisted of a two-stage operation in which the palate was displaced backwards in an effort to supply the necessary tissue to close the oronasal isthmus during speech. Both of these devices have attempted to give the patient that prime factor, a competent palatopharyngeal valve, and, therefore, a functional physiological mechanism for the production of normal speech.

There still remains a large number of cases which are considered inoperable from the surgical standpoint. These briefly are those cases of clefts that

cannot be closed due to insufficiency of existing tissue. Also are those cases in which closure constitutes only thin membranous covering and physiologically is of little value. Then those cases must be considered which have been operated upon with poor results, such as late breaking down of the tissue and insufficient tissues with much scar to close the nasopharynx. In these the problem becomes one for the dentist, especially one skilled in the art of fitting and making prosthetics.

In patients who possess an inadequate velum or musculature that cannot function properly due to surgical trauma or otherwise, there remains the artificial velum or obturator (Illustration #4). These

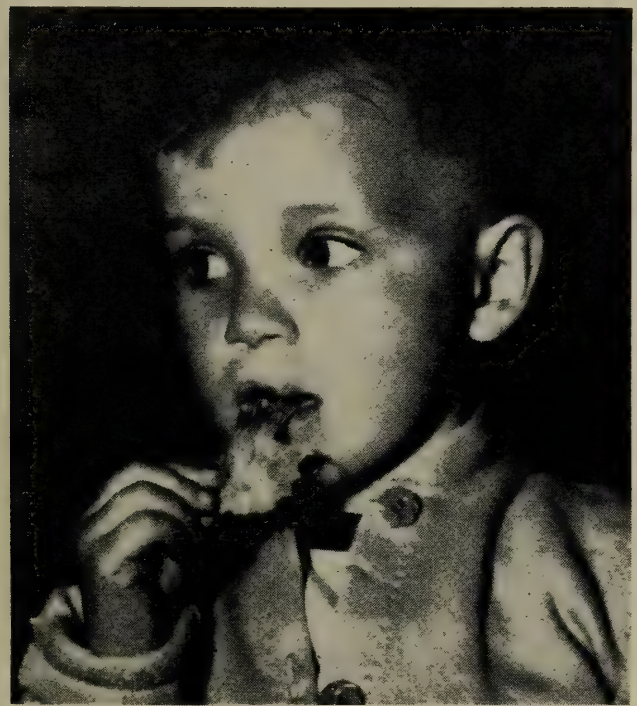


Illus. 4—Prosthetic speech appliances

devices are usually made of vulcanite or acrylic with an obturator that closes the cleft and partially fills the space behind the short velum. It is not necessary that it fill the entire passage between the short velum, but it must occlude the space that is left when the contraction of the superior constrictor muscle forms Passavant's cushion in its constriction of the transverse diameter of the pharynx and approximates the borders of the cleft velum. These devices are made from impressions taken of the mouth and are held in place with clips attached to the teeth. (Illustration #5). The diligent patient will develop actions of the muscles to the extent that good speech can be obtained. Age is not a factor as prosthetics have been successfully used in children of three years.

When a person has learned to speak with a cleft in the velum, the stigma of "cleft palate" speech is due to the escape of air through the nasopharynx during the effort to produce sounds requiring its closure. Older children who have cleft palates are often found to be mentally backward, simply be-

cause they are ashamed to ask questions due to their speech difficulties. Lack of incentive can be attributed to consequent infrequency of correction during recitations. People around them do not understand their speech and many are considered "queer". This, however, can be eliminated by proper surgery or proper fitting of the obturator, with help in mastering the use of the new palate, whether it be their own or an artificial one.



Illus. 5—Child, age 2½ years. Inserting speech aid.

Every patient should have the benefit of lessons from a trained worker in the correction of speech and at the point, the speech therapist becomes the leading member of the team. For some time development of speech in a child with a cleft palate proceeds on similar lines to those of a normal child. Of the factors necessary for the development of speech only one is lacking, the requisite apparatus for normal articulation. The child is unable to divide completely the oral from the nasal cavities, so that the first sound produced in babbling will be nasalized. As the child at this stage is in no way attempting to imitate the sounds of his surroundings, nasalization is of no importance to him and such sounds serve to express his feelings and desires quite as satisfactorily as do the correct sounds of the normal child. The first obstacle to correct speech is encountered when an attempt is made to form consonant sounds. In the case of unrepaired

clefts the air pressure necessary for producing this sound, as for any other explosive or fricative consonant, is unobtainable as there is no possibility of preventing the express of air through the cleft and nostrils. As the child progresses he may relinquish all attempts to produce good speech as hopeless and make no effort to imitate speech sounds beyond the nasal resonance and the use of the glottal stop or larynx to separate the string of nasalized vowel sounds which are all that he is able to produce. With a continued reproduction of such faulty movements, incorrect speech habits, so difficult to eradicate in later years, are steadily developed. Not only does the child become accustomed to the sounds he hears himself producing, these abnormal auditory images are also inevitably correlated in his mind with the normal sounds he hears around him, which he attempts to imitate. Because of these facts the child with a cleft palate is usually completely unconscious of any difference between the sounds he makes and those he hears from others. He becomes conscious of his defect only when he is old enough to realize that he differs from other children in his inability to make himself understood or when his companions ridicule his attempts at speech. Many cleft palate patients have been questioned, and we have yet to find one who was able, without training, to recognize any auditory difference between his own and correct articulation.

The author has attempted to show that the problem of clefts is not that of the surgeon or the dentist alone. Good results, and by that term we mean an anatomically correct lip and palate and a physiologically correct pharynx, become the joint responsibility of the surgeon, the dentist, and the speech therapist. To this group should also be added the psychiatrist for older children who have developed mental complexes. The problem can be solved only by co-operation between the groups mentioned along with complete post-operative care and re-education. Too much stress has perhaps been laid on surgical procedure and the surgeon often feels that with a united cleft, his work is completed. This, however, is certainly fallacious. In all this work much time and patience are required. Although faulty sounds can be corrected, speech itself cannot be taught as one might teach addition or subtraction. It is rather a process of gradual development along normal lines accompanied by a progressive elimination of the

faulty habits acquired before operation. Every case of cleft palate is a unique and a separate problem presenting a varying combination of difficulties, personal and otherwise; for this reason no two cases can be treated alike.

The speech therapist should be the best judge of the speech result and should be in a position to indicate which defects can and cannot be overcome by speech therapy. The surgeon, on the other hand, can indicate what surgical measures are possible or advisable to provide the improvement for which the whole team is striving. Again, this necessitates viewing the child as a whole and not a hole, merely to be closed.

We are indebted to Cloyd S. Harkins, D. D. S.,

Oseola Mills, Pennsylvania, for Illustrations No. 3, 4, and 5.

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Industrial Health Program for the GP.

A program to interest general practitioners in industrial medicine recently was launched by the joint committee on education of the American Academy of General Practice and the Council on Industrial Health of the American Medical Association. The project proposes to encourage an understanding of industrial health problems by management and physicians and to develop an education program geared to the GP on both the undergraduate and postgraduate level.

Since more than 90 per cent of American industries employ less than 100 workers, the "family doctor" also must be educated on the part he can play in supervising and directing health and safety programs in small plants without interfering with his regular practice. The AMA's Council is prepared to assist local medical societies in carrying out educational programs designed to bring the employer and physician together by sponsoring local industrial health meetings.

MINOR DEFECTS OF THE EXTERNAL NOSE

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Plastic surgery of the nose is not a new development. Its origin is of the greatest antiquity. From time immemorial rhinoplasty has been performed in India for the relief of the disfigurement caused by punitive mutilation of the nose. Surgeons of all civilized and some uncivilized countries have from time to time evolved methods of repair for various disfigurements and in plastic reconstruction of the nose the principles laid down by the fathers of surgery are found still to be of general application.

In recent years the technic of surgery in all fields has been stepped up to the point of marked advancement, and in this advance plastic surgery of the nose has kept well out in the foreground, due largely to the efforts of Sir Harold Gilles, of London, and the late J. Eastman Sheehan, of New York, and their associates, during and following the initial world war.

The broad technical approach and the numerous possibilities in the surgical repair of the deformed nose is now becoming more familiar to many who are candidates for surgery which will correct external nasal defects. There is something quite Utopian about the eagerness with which both the medical profession and the laity have become interested in acquiring knowledge which serves to familiarize them with the possibilities in this field of surgery.

Because the nose protrudes from the center of the face, any deformity of its external outline tends to detract from the generally good appearance of all the other features of the face. There are many young women whose features are quite normal in appearance with the exception of the nose which may have multiple minor defects of its external contour.

There are many deviations from the normal coming together of anatomical structures of the nose which enter into the causation of certain disfigurements. The superior and inferior lateral cartilages may be enlarged or twisted, giving the tip of the nose a bulbous or nodular appearance. The car-

tilaginous and bony dorsal line may present irregularities due to a sagging of portions of these structures, producing an unsightly profile. When the width and length are out of proportion to the size of the face, this materially detracts from the appearance as a whole. All of these and more of the minor abnormalities, some of which have been enumerated here, can easily be made to respond to a simple type of surgery. The reaction and discomfort on the part of the patient following the surgical treatment of such conditions is extremely slight, and the ultimate good result can soon be anticipated. When the correction of these minor multiple malformations is effected and the parts are thoroughly healed, there should not be the slightest remaining evidence to reveal that surgery had been undertaken. The steps necessary to effect these slight changes are most simple and the required surgical technic is almost completely devoid of difficulties, producing an outcome that is satisfying to both the patient and the surgeon.

It must be remembered that the majority of deformities encountered in civilian life are congenital or developmental deviations from the so-called "normal". This normal is a purely fictional term, for the borderlines of normalcy in physical appearance are as indefinite and flexible as are those of human behavior.

While many of these lesser conditions complained of are obvious and self-evident, some are so mild as to be scarcely noticeable to others though they are of the utmost significance to the patient, causing them great mental stress and unhappiness. This, as we have learned from the newer concepts of psychosomatic medicine, can be responsible for much dysfunction of otherwise normal organic activity. With those so afflicted elimination of the existing disfigurement, no matter how mild, may correct these dysfunctions. Thus plastic surgery is in many cases a practical means of psychotherapy.

1635-A Monument Avenue.

ACUTE FIBRINOUS BRONCHIOLITIS WITH PARTIAL PULMONARY ATELECTASIS IN AN INFANT EIGHT MONTHS OF AGE

Report of a Case

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and

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Fibrinous bronchitis with the formation of complete or partial bronchial casts is not infrequent in adults who suffer from chronic asthmatic bronchitis. The prognosis in such cases depends upon the degree of pulmonary fibrosis and the formation of casts has little or no clinical significance.

In patients in whom acute bronchiolitis is associated with development of casts the prognosis is more grave, especially in infants or small children. Fortunately this latter condition is seldom observed and for this reason the following case is reported.

REPORT OF CASE

A baby boy eight months of age had developed eczema eleven days after birth, but with dietary

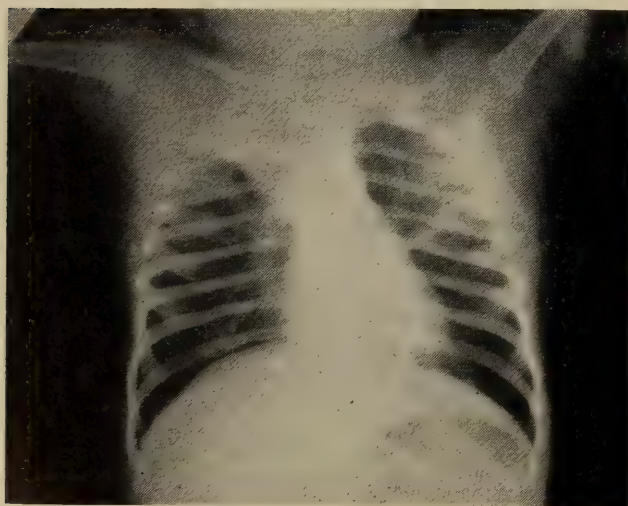


Fig. 1.—Roentgenogram showing atelectasis of the right upper lobe.

restrictions this condition had gradually improved and he seemed normal in other respects.

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On October 31, 1951, the child developed evidence of a mild upper respiratory infection with watering of the eyes and nasal discharge, but without elevation of temperature.

He was restless and slept poorly that night. The following day terramycin was administered but was partially vomited. On November 2 there was fever of 101° and a raspy cough was associated with dyspnea. Because of increasing severity of dyspnea oxygen was started early in the morning on November 4.

Penicillin, cortone, chloromycetin, and finally aureomycin, were given without apparent benefit.

Roentgenoscopic examination revealed atelectasis of the upper lobe of the right lung (fig. 1), and breath sounds were absent over this area. There was diffuse wheezing and coarse rales and rhonchi over the left lung and over the lower lobe of the right lung. The patient was placed in oxygen and given adrenalin in oil.



Fig. 2.—Bronchial cast of the upper lobe of the right lung.

About eight o'clock on the evening of November 4 the child had a severe attack of coughing and vom-

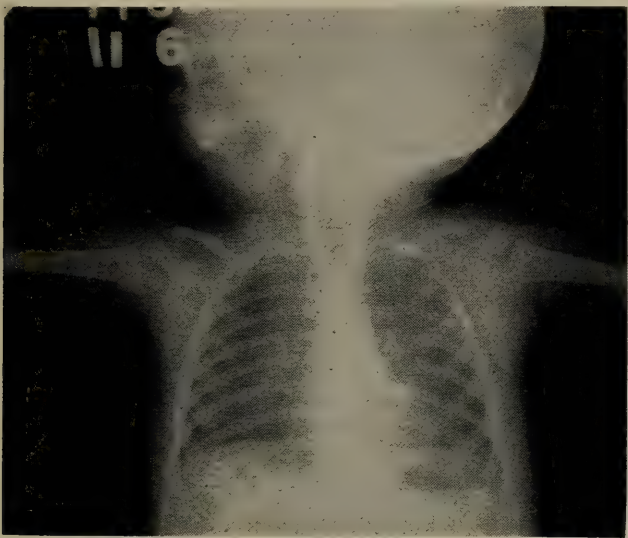


Fig. 3.—Normal roentgenogram after spontaneous expulsion of the bronchial cast.

ited, after which the nurse saw a white object on the back of his tongue. When this was removed it proved to be a cast of the bronchi of the entire upper lobe of the right lung (fig. 2). The child's general condition improved at once, breath sounds became audible throughout both lungs and the temperature was normal within twenty-four hours. A roentgenogram made on November 6 showed complete clearing of the area of atelectasis (fig. 3). The child was permitted to return home on November 11.

On December 21, 1951, he developed a cold with wheezing respirations that required a few days' hospitalization, but the administration of penicillin and aureomycin was followed by prompt recovery. Roentgenoscopic examination of the chest did not reveal any abnormality. Since that time he has remained well except for persistence of a mild degree of eczema.

AMA Prepares New Health Exhibit.

Designed for lay audiences, a new portable exhibit entitled "Health-1952" will be available by mid-September from the AMA's Bureau of Exhibits for state and county medical societies. The exhibit presents an over-all picture of health conditions in the United States at the present time. The first panel, containing a large, colored modern adaptation of Sir Luke Fildes' painting, "The Doctor," emphasizes improved health conditions in the country today—showing that life expectancy has increased,

tuberculosis, diphtheria and pneumonia deaths have skidded to an all-time low, mothers and babies have a much greater chance of surviving today. The second theme shows that Americans require less working time to pay for medical care today as compared with 15 years ago. Finally, the exhibit points out that today there is an easier way to pay for medical care—through voluntary health insurance.

The Bureau plans to revise and bring the exhibit up to date each year. The only cost involved to medical societies will be the shipping charges both ways.

COMBINED NITROGEN MUSTARD AND SINGLE DOSE IRRADIATION TREATMENT OF LYMPHOMATA AND OTHER MALIGNANT TUMORS*

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Three years ago there were presented to this Society observations on the use of nitrogen mustard in the treatment of Hodgkin's disease. Experience has shown that this agent can produce prompt clinical remissions in a high percentage of patients, even where the disease is far advanced. The remissions produced, however, tend to be brief; and lymph nodes which have regressed following treatment tend to recur. In general, more complete resolution of nodes can be achieved by local irradiation, and the results are likely to be more lasting. Nitrogen mustard is useful in attacking the disease diffusely throughout the body, while irradiation has a more potent effect on localized nodes.

It seemed desirable to find a suitable technique for combining these two types of therapy, in the hope that the two together might have a summative effect in destroying tumor tissue. To accomplish this the most feasible plan seemed to be the administration of a single large dose of nitrogen mustard followed immediately by a single large dose of irradiation over one or more principal tumor sites. In September, 1948, such a program was begun at the Richmond Veteran's Administration Hospital. Patients with far advanced lymphomata or other neoplasms were selected for this type of treatment. This paper reports observations of the toxic effects and evaluation of the results obtained in 52 patients so treated.

MATERIAL

The patients were all males between the ages of 23 and 71 years. All but four were white.

Diagnoses are listed in Table I, all diagnoses being established by biopsy or post-mortem findings. Au-

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topsy was performed on 12 of the 17 patients dying in the hospital.

These patients were treated between September, 1948, and December, 1950. Follow-up observations continued to July, 1950, and all but one patient was followed to that date or to the time of death if sooner.

TABLE I
DIAGNOSIS

Hodgkin's Disease	26
Lymphosarcoma	6
Reticulum Cell Sarcoma	1
Carcinoma of Lung	10
Carcinoma of Rectum	2
Carcinoma of Larynx	1
Mixed Tumor of the Parotid	1
Adenocarcinoma of the Parotid	1
Sarcoma (chondrosarcoma of thigh)	2
Medulloblastoma Cerebellum	1
Teratoma Testis	1
	52

TREATMENT PROGRAM

Many of the patients were severely ill at the time of treatment, but treatment was withheld if the patient was considered too ill to withstand the expected nausea and vomiting, or (except in Case 1) if the white blood count was below 4,000. Severely anemic patients were transfused until the hemoglobin reached a level of 12 grams or more before treatment.

Nitrogen mustard (methyl bis-beta-chloroethylamine hydrochloride), 0.3 mgm. per kilogram of body weight, was injected over a two minute period into the tubing of a running saline intravenous infusion. After receiving this the patient was immediately sent to the X-ray Department where irradiation was directed to one or more tumor sites.

For irradiation, the physical factors employed were 250 kilo-volts with a half-value layer of 1.6 mm. copper.

The size and number of portals and the target

skin distances varied with the individual patient, depending upon the extent of the disease and the thickness of the area irradiated. The initial dose given was 600 Roentgens to the estimated center of the neoplasm. Later this tumor dose was increased to 800r, and to 1200r in certain cases.

To allay nausea and vomiting patients were treated in a fasting state, with full dosage of atropine and heavy sedation with barbiturates being given during the remainder of the treatment day, and the subsequent diet as tolerated. As more experience was gained it was found that sedation was the most effective means of controlling the post-treatment nausea. One method employed was allowing the patient a light breakfast, with-holding lunch, and administering the treatment in the afternoon. After the patient was returned to the ward from the X-ray Department intravenous sodium amytal was given until deep sleep was produced. Many patients thus treated were able to sleep through the night and awake the next morning with minimal symptoms referable to the treatment.

Complete blood counts were done twice weekly for three weeks post-treatment, or until there was return to normal.

It was initially planned to repeat the combined treatment at monthly intervals for three courses provided blood counts were satisfactory. This plan was later modified so that subsequent treatment was given according to the condition of the individual patient. Treatment was not repeated in less than three weeks, and only then if the blood counts had returned to normal.

TOXIC EFFECTS

The toxic reactions following the administration of nitrogen mustard have been previously described.¹ They are (1) thrombosis of the injected vein, (2) nausea and vomiting, and (3) blood depression. The effects of X-ray in the doses used in this program are usually limited to nausea, vomiting, anorexia and malaise, or to the local effects on the skin.

One patient developed a thrombophlebitis of the injected vein which cleared without sequelae.

Nausea and vomiting occurred in all of the earlier patients, but as heavier sedation was used this was greatly diminished. Many of the patients had no symptoms referable to the treatment, especially those who were treated in the afternoon and given intravenous sodium amytal. No cases of pernicious

vomiting were encountered.

Diarrhea in one patient was controlled with Metamucil and no disturbance in fluid or electrolyte balance occurred.

Twenty-two (42%) of the patients treated showed a fall in the white blood cells to levels below 4,000/cu.mm. Of these 8 reached a level between 3,000 and 4,000; 7 fell to between 2,000 and 3,000; 4 dropped to between 1,000 and 2,000; and 3 were below 1,000. None of those patients in whom the count remained above 1,000 developed any signs or symptoms referable to the leukopenia, and in all the counts returned to normal levels within 4 weeks of treatment without transfusions. Of the 3 patients showing a fall to below 1,000, two had a return to normal levels with the aid of multiple transfusions and no signs of agranulocytosis were noted. One patient (Case 1) whose disease was far advanced and progressing rapidly was treated when the white blood cell count was only 3,200/cu.mm. He developed an agranulocytosis with total count of 400/cu.mm., and showed severe sepsis, necrotic pharyngeal ulcerations, nasal furunculosis and purpuric manifestations. Transfusions were given freely, and the white blood count had risen to 1,800/cu.mm. when death occurred three weeks post-treatment. Although this patient was in an almost terminal state prior to treatment it was felt that the severe bone marrow depression was at least a contributing cause of death.

In subsequent cases treatment was not given, regardless of the indications or urgency, unless the white blood count was above 4,000/cu.mm.

Serial platelet counts were done in about one-half the cases. As a rule the platelet counts followed the level of the granulocytes and, except in the first patient, no instances of bleeding occurred.

No significant fall in the level of hemoglobin could be attributed to the treatment. Indeed, those patients requiring multiple transfusions to correct severe anemia prior to treatment often showed a post-treatment rise in hemoglobin, or at least the hemoglobin ceased to fall when a good clinical remission had been obtained. As exacerbations of the disease appeared, progressive anemia would again be apparent.

One patient (Case 7) complained of lethargy and mild headache after treatment; then, on the 7th

Patient	Age and Race	Duration of Disease in Months	PREVIOUS THERAPY			Rate of Progression	General Condition	Site(s) of Major Disease
			Type (1)	Results	Duration of Remission			
HODGKIN'S								
1. A.J.	W-37	2	No previous treatment			Rapid	Poor	Generalized
2. D.C.	W-27	8	X-ray 1-(9) 2-(2) 3-(1)	Good Poor None	4 mos. No remission Progressing During Rx.	Rapid	Poor	Generalized
3. G.P.	W-33	12	No previous treatment			Rapid	Fair	Generalized
4. W.S.	W-32	2	None	None	None	Slowly progressive	Good	Left neck
5. H.C.	C-37	31	X-ray 1-(31) 2-(24) HN2 1-(19) 2-(7) 3-(3)	Poor Poor Good Poor None	No remission Progression continued 12 mos. No remission No remission	Slowly progressive disease	Fair	Peripheral nodes and 4th and 5th dorsal vertebrae
6. R.A.	W-39	64	X-ray (64)	Good	48 mos.	Moderately rapid	Fair	Mediastinum and abdomen
7. W.H.	W-25	60	X-ray 1-(60) 2-(48) 3-(24) 4-(12)	Good Good Good Good	12 mos. 24 mos. 12 mos. 12 mos.	Slowly progressive	Good	Cervical nodes
8. J.S.	W-54	12	X-ray (7)	Good	5 mos.	Rapid	Fair	Generalized
9. J.C.	W-44	5	None			Slowly progressive	Good	Generalized
10. W.D.	W-22		X-ray 1-(44) 2-(21) 3-(9)	Good Good Good	23 mos. 12 mos. 6 mos.	Moderately rapid progression	Poor	Generalized
11. G.S.	W-34	6	None			Slowly progressive	Good	Neck and mediastinum
12. W.S.	W-54	60	None			Slowly progressive	Fair	Neck, axillae and abdomen
13. D.S.	W-24	2	None			Rapid	Fair	Neck, axillae, inguinal, mediastinum

(1) Time in months prior to first combination treatment.
(2) Time interval since the previous combined treatment.
(3) Time after last combination treatment except as otherwise noted.
(4) Time interval from the last combined treatment.

II

Symptoms	Combined Therapy(2)	Response	Duration of Remission	Subsequent Therapy(3)	Follow-Up Status(4)
DISEASE					
Fever, weight loss, weakness #	1. Cervical and abdominal 2. Abd. (6 wks.) 3. Mediastinum (1 mo.)	Slight Fair Slight	18 days 18 days 6 days	None	Died—3 months
Fever, weight loss, weakness	1. Abdomen 2. Abd. (2 mos.) 3. Abd. (1 mo.)	Good Fair Fair	2 mos. 1 mo. 2 wks.	None	Died—6 months
Fever, weight loss	1. Mediastinum 2. Mediastinum (3 mos.) 3. Abd. (2 mos.)	Fair Fair None	4 mos.	HN2 alone between 2 and 3	Died—7 months
Local swelling	1. Neck 2. Neck (3 wks.) 3. Neck (2 wks) 4. Med'nm (16 mos.)	Good Good	15 mos. 13 mos.	X-ray for general involvement 13 mos. after Rx #4 HN2 14 mos. after Rx #4	Alive with generalized progressive disease—33 months
Local swelling and back pain	1. Spine and axilla 2. Ing. nodes (1 mo.) 3. Abdomen (5 mos.) 4. Ing. nodes (4 mos.)	None None None None		HN2 alone 2 wks. after Rx #2 X-ray alone to spine and peripheral nodes with no response.	Died—21 months
Fever, weight loss, weakness	1. Abd. 2. Abd. (2 wks.) 3. Abd. (3 wks.) 4. Abd. (3 mos.)	Good Fair	3 mos. 2 wks.	HN2 alone (2 mos.) no response	Died—9 months
Local swelling only	1. Neck	Good (but had a CNS reaction)	15 mos.	X-ray (15 mos.) to local nodes X-ray (21 mos.) to local nodes	Alive with no evidence of disease—26 months
Fever, local swelling, weight loss, abdominal pain	1. Abd. 2. Abd. (1 mo.) 3. Abd. (1 mo.)	Slight Slight None	26 days 15 days	None	Died—4 months
Fever, weight loss, weakness	1. Abd. 2. Med. (3 wks.) 3. Med. (6 wks.)	Good	26 mos.	None	Alive—no evidence of disease after 26 months
Fever, weight loss, nausea, vomiting and abdominal pain	1. Abd. 2. Abd. (1 mo.)	Good	19 mos.	X-ray (20 mos.) HN2 alone (21 mos.) X-ray (25 mos.)	Alive with generalized disease progressing, 24 months
Local swelling in neck	1. Neck and Med. 2. Same (6 wks.) 3. Med. (5 wks.)	Good	9 mos.	None	Alive—no evidence of disease when last seen after 9 months
Weight loss, nausea, vomiting	1. Abd. 2. Abd.	Good	6 mos.	X-ray (6 mos.)	Alive with no evidence of disease after 26 months
Weight loss, fever	1. Med. 2. Med. (1 mo.)	Good	9 mos.	(1) HN2 (1 mo.) well at time (2) X-ray (8 mos.) (3) X-ray (18 mos.)	Well—28 months

Patient	Age and Race	Duration of Disease in Months	PREVIOUS THERAPY			Rate of Progression	General Condition	Site(s) of Major Disease
			Type (1)	Results	Duration of Remission			
14. G.A.	W-28	24	X-ray (18) (6)	Good Poor	6 mos. 1 mo.	Rapid	Fair	Neck, axilla, inguinal, mediastinum
15. J.C.	W-28	23	X-ray (18) HN2(4) HN2(3)	Good Good Good	2 mos. 1 mo. 3 mos.	Moderate	Poor	Generalized
16. C.B.	W-24	10	None			Moderate	Good	Neck, axillae, mediastinum
17. L.A.	W-23	5	HN2(3) HN2(1)	Good None	2 mos.	Rapid	Fair	Generalized
18. R.R.	W-44	4	None			Moderate	Fair	Neck, abdomen
19. W.P.	W-54	11	X-ray(9) HN2(5) HN2(1)	Good Fair Fair	4 mos. 1 mo. 2 wks.	Rapid	Poor	Abdomen
20. B.P.	W-58	14	X-ray(9) HN2(9) HN2(3)	Good Good Fair	5 mos. 2 mos.	Rapid	Poor	Generalized with ascites
21. E.C.	W-28	21	X-ray(19) X-ray(8) X-ray(6) X-ray(4)	Good Fair Fair Fair	11 mos. 6 wks. 6 wks. 6 wks.	Rapid	Poor	Generalized, including vertebrae
22. H.M.	W-38	10	X-ray(9) HN2(5) Cortisone HN2(4)	Good Fair None	3 mos. 1 mo.	Rapid	Poor	Generalized
23. L.A.	W-27	62	X-ray(61) X-ray(29)	Good Good	32 mos. 24 mos.	Slow	Fair	Generalized
24. W.F.	W-38	17	HN2(7)	None		Slow	Fair	Generalized
25. E.B.	W-26	3	None			Rapid	Poor	Kidneys, mediastinum, neck
26. H.A.	W-28	24	X-ray(22) X-ray(18) X-ray(17)	Fair Fair Good	4 mos. 1 mo. 15 mos.	Rapid	Poor	Abdominal

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27. E.M.	W-26	2	None			Rapid	Poor	Inguinal, axillary, skin
28. H.T.	W-40	18	X-ray(11) X-ray(8) X-ray(5)	Good Good Good	3 mos. 3 mos. 3 mos.	Rapid	Good	Peripheral nodes and skin
29. C.T.	W-46	48	X-ray(24) X-ray(18) X-ray(12) HN2(10)	Good Fair Poor Poor	6 mos. 6 mos.	Slowly progressive	Fair	Generalized (mainly abdominal)

II—Continued

Symptoms	Combined Therapy(2)	Response	Duration of Remission	Subsequent Therapy(3)	Follow-Up Status(4)
Cough, fever, pain, weakness, anemia	1. Med. 2. Neck (1 mo.) 3. Med. (1 mo.)	Poor None		None	Died—2½ months
Fever, weight loss, nausea, vomiting, weakness	1. Abdomen 2. Abdomen, Inguinal (13 mos.)	Good Good	9 mos. 3 mos.	HN2 (9 mos. after 1st comb. Rx.) X-ray (3 mos.)	Weak, but ambulatory—17 months
None	1. Neck Mediastinum	Good	2 mos.	HN2 (2 mos.)	Well—18 months
Fever, pain, anemia, weakness	1. Abdomen 2. Abd. (2 mos.) 3. Med. (6 wks.)	Fair Fair None	3 wks. 1 mo.	None	Died—4 months
Fever, weight loss, weakness	1. Abd. 2. Abd. (7 mos.)	Fair None	6 wks.	HN2 (2 mos. after 1st comb. Rx) HN2 (4 mos. after 1st comb. Rx)	Died—10 months
Weight loss, fever, anemia	1. Abdomen	None		None	Died—2 weeks
Weight loss, weakness, dysphagia	1. Abdomen	None		X-ray (1 wk.) to pharynx	Died—2 months
Fever, weight loss, edema, ascites, pain	1. Abdomen 2. Neck (1 mo.)	Poor None	2 wks.	None	Died—2 months
Fever, weight loss, anemia	1. Abd.	Poor	2 wks.	None	Died—1½ months
Weakness, fever, weight loss, pain	1. Abd. 2. Abd. (1 mo.)	Good	6 mos.	Partial gastric resection, developed irradiation injury to stomach	Died—11 months
Fever, weight loss, edema, pruritis, anemia	1. Abd. 2. Abd. (4 mos.) 3. Abd. (6 mos.)	Fair Fair Good	2 mos. 1 mo. 1 mo.	X-ray (2 wks.) after 1st comb. Rx)	Weak, but ambulatory—7 months
Headache, anasarca, albuminuria	1. Kidneys	Good	11 mos.	None	Asymptomatic—no evidence of disease—11 months
Fever, weight loss, anorexia	1. Abd.	Poor	1 mo.	None	Admitted to another hospital in (?) terminal state—6 weeks

SARCOMATA

Local swelling, lymphedema, wt. loss	1. Inguinal	Good	6 wks.	None	Died—3½ months
Pruritus	1. Area of skin of back	Good (for irradiated area)		HN2 (2 wks.) HN2 (2 wks.)	Died—4 months
Weight loss, abdominal pain, nausea, weakness, vomiting	1. Axillae	Fair	3 wks.	HN2 (3 wks.) HN2 (6 wks.) HN2 (5 mos.)	No response to HN2 Died—7 months

Patient	Age and Race	Duration of Disease in Months	PREVIOUS THERAPY			Rate of Progression	General Condition	Site(s) of Major Disease
			Type (1)	Results	Duration of Remission			
30. C.T.	W-29	24	X-ray(24) X-ray(12) X-ray(3)	Good Good Good	12 mos. 9 mos. 3 mos.	Rapid	Good	Generalized
31. R.F.	W-52	33	X-ray(32) X-ray(19) X-ray (13)	Good Good Fair	13 mos. 6 mos. 6 mos.	Slowly progressive	Fair	Abdominal, inguinal
32. R.D.	W-64	7	None			Rapid	Poor	Generalized <i>plus</i> bone
33. B.B.	W-33	8	None			Rapid	Fair	All peripheral nodes

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34. H.J.	W-50	16	X-ray(9) X-ray(6) X-ray(3) HN2(2) HN2(1)	Good Good Fair Good None	3 mos. 1 mo. 2 mos. 2 wks.	Rapid	Poor	Lung—to peripheral nodes and liver
35. L.F.	W-53	2	None			Progressive	Fair	Lung and hilum
36. A.S.	W-62	13	None			Progressive	Fair	Lung and hilum
37. E.B.	W-50	1	HN2(1)	Fair	1 mo.	Rapid	Fair	Lung and hilum
38. J.P.	W-62	12	None			Rapid	Fair	Lung and hilum
39. H.M.	W-48	4	None			Rapid	Fair	Lung—large cervical node
40. I.L.	W-71	6	None			Rapid	Poor	Lung and hilum
41. H.H.	W-46	12	Pneumo-nectomy(8)	Good	8 mos.	Rapid	Poor	Lung, hilum and skull
42. M.P.	W-57	1	None			Rapid	Good	Lung, hilum and neck
43. J.W.	N-55	6	None			Rapid	Poor	Lung, pleurae, abdomen

MISCELLANEOUS

44. C.W. Ca. of Recto-Sigmoid	W-38	12	Abdomino-perineal(8)	Good	8 mos.	Rapid	Poor	Generalized, abdominal nodes and mediastinum
45. W.D. Ca. of Larynx	W-50	12	X-ray(3)	None		Rapid	Poor	Larynx with pulmonary spread

II—Continued

Symptoms	Combined Therapy (2)	Response	Duration of Remission	Subsequent Therapy (3)	Follow-Up Status (4)
Local swelling	1. Neck, axillae, inguinal 2. Abdomen (16 mos.)	Good None	3 mos.	X-ray to local nodes (3, 5, 9 and 12 mos.) HN2 (13 mos.) X-ray to abd. (16 mos.) all after 1st comb. Rx	Became refractory to all therapy Died—19 months
Ascites, edema of legs, dyspnea	1. Abdomen 2. Abdomen (6 wks.) 3. Abdomen (10 wks.)	Good Good	5 wks. 3 mos.	X-ray (3 mos.) X-ray (6 mos.)	Died—11 months
Pain, fever, local swelling	1. Iliac bones	Fair	2 wks.	None	Died—6 weeks
Weight loss, pain	1. Inguinal, cervical	Good	3 mos.	X-ray to multiple peripheral areas (3 wks.-2 mos.)	Ambulatory with progressing generalized disease—3 months

CANCERS

Weight loss, abdominal pain, dyspnea	1. Mediastinum	None		None	Died—2 weeks
Weight loss, dyspnea	1. Mediastinum 2. Mediastinum (2 mos.)	Good	3 mos.	None	Died suddenly at home—cause unknown—3 months
Cough, weight loss	1. Lung	Good	2 wks.	Surgery (2 wks.)	Died (during surgery)—2 weeks
Weight loss, hemoptysis, chest pain	1. Mediastinum	Poor		None	Died—2 months
Weight loss, cough, weakness	1. Mediastinum	None		None known	Unknown—to home in terminal condition
Pain in cervical gland	1. Neck	None		None	Died—6 weeks
Weight loss, weakness, cough and chest pain	1. Mediastinum	Symptomatic only		None	Died—6 months
Weight loss, cough, fever	1. Skull	Local improvement only		None	Died—2 months
Neck swelling only	1. Mediastinum	Good	1 mo.	X-ray (1 mo.)	Died—4 months
Dyspnea, weakness, wasting	1. Mediastinum	None		None	Died—1 month

TUMORS

Weight loss, abdominal pain, intestinal obstruction	1. Mediastinum	None		None	Died—4 months
Weight loss, weakness, dysphagia and pain	1. Mediastinum 2. Mediastinum (3 wks.)	Slight relief of pain only		Gastrostomy (1 mo.)	Died—5 months

Patient	Age and Race	Duration of Disease in Months	PREVIOUS THERAPY			Rate of Progression	General Condition	Site(s) of Major Disease
			Type (1)	Results	Duration of Remission			
46. P.K. Teratoma testicle	W-26	16	Orchidec- tomy and X-ray (13) X-ray (5)	Good Good	7 mos.	Rapid	Poor	Regional and me- diastinal nodes
47. P.B. Mixed tumor parotid	W-38	56	Surgical excisions			Progressive	Good	Local and to lung and skull
48. W.R. Ca. rectum	W-32	13	Surgery (12)			Slow Recurrence	Poor	Perineal and blad- der
49. J.S. Medullo- blastoma cerebel- lum	W-27	28	X-ray (18) X-ray (10) X-ray (2)	Good Fair Fair	6 mos. 3 mos. 2 mos.	Rapid	Poor	Cerebellum with ex- tension into spinal cord
50. P.L. Adeno-Ca. parotid	N-35	58	None			Rapid	Poor	Large parotid tu- mor with ulcerat- ing skin metas- tases
51. J.D. Chondro- sarcoma of thigh	W-23	24	Amputation mid-thigh (23) Rt. lobec- tomy (8)	Good Good	14 mos. 6 mos.	Rapid	Good	Metastases in lungs and mediastinum
52. M.R. Sarcoma thigh	W-40	31	Amputation mid-thigh (30)	Good	12 mos.	Rapid	Poor	Tumor in stump with spread to lungs

day, abruptly developed urinary retention, severe headache, mental confusion, areflexia of the entire right side, and papilledema. The spinal fluid was under increased pressure and showed a lymphocytosis and an increased protein content. With no specific therapy other than a retention catheter and maintenance of the fluid and electrolyte balance, the symptoms slowly subsided so that within a week the bladder function had returned and within two months all signs of any central nervous system disorder had completely disappeared. This patient has been followed over thirty months since this episode and at no time has there been evidence of Hodgkin's involvement of the central nervous system, although several local recurrences elsewhere have been treated subsequently with irradiation alone. It is thought that this reaction probably represented a direct toxic effect of nitrogen mustard on the central nervous system.

One patient (Case 23) received a total of 2,000r tumor dose to the retroperitoneal area in two courses one month apart. Five months later, at another hospital, he was subjected to a gastric resection because of abdominal pain and Roentgenographic evidence of pyloric obstruction. The gross specimen showed edema of the antrum and pylorus with a necrotic ulcer of the antrum. The microscopic picture was described as showing edema of the mucosa and "changes due to irradiation".

All patients developed varying degrees of pigmentation of the skin at the site of irradiation, but in no instance was ulceration or radio-necrosis of the skin encountered.

These observations suggest that the toxicity of the combined therapy is that which might be expected from the use of nitrogen mustard or X-ray alone. No additive toxic effects were demonstrable.

II—Continued

Symptoms	Combined Therapy(2)	Response	Duration of Remission	Subsequent Therapy(3)	Follow-Up Status(4)
Weight loss, weakness, abdominal pain	1. Abdominal	None		None	Died—1 month
Cough, local swelling	1. Right lung parotid 2. Skull	Good None	11 mos.	None	Pre-terminal state (cerebral spread)—25 months
Pain and urinary obstruction	1. Perineum	None		Nephrostomy	Terminal state—6 months
Paralysis, headache, increased I.C.P.	1. Cerebellum	Transient decrease in I.C.P.		None	Died—3 weeks
Local pain, weight loss, weakness	1. Parotid	None		None	Died—3 weeks
Cough, pain in chest	1. Mediastinum	None		X-ray (5 mos.)	Died—8 months
Leg pain, cough, chest pain, weakness	1. Lungs	None		None	Died—2 months

RESULTS OF TREATMENT

Hodgkin's disease: 26 patients with Hodgkin's disease received combined treatment. Data on these patients are summarized in Table II. The duration of the disease varied from 5 years to 2 months, but most patients were in an advanced stage at the time of treatment, with widespread dissemination and disabling symptoms. 16 patients had received previous treatment with either nitrogen mustard or irradiation.

Results of the combined treatment are recorded in Table II, with the evaluation of the degree of each remission produced and its duration. Results are described as good where definite remission occurred with very marked resolution of nodes or tumor masses, cessation of fever and other disabling symptoms, return of appetite and sense of well being and weight gain. These patients were able to leave the hospital and return to some sort of activity. Results are

listed as fair where definite improvement occurred but resolution of the nodes or relief of symptoms was incomplete. Results are listed none or poor when beneficial effects were absent or so slight or transient as to be of no real value to the patient.

Significant remissions were produced in two-thirds of our patients. These were considered good in 13 and fair in 4. Nine patients received little or no benefit from treatment.

The duration of remissions produced varied from two weeks to 26 months. Ten patients obtained remissions lasting 6 months or longer. As would be expected, the longer remissions occurred most often in those patients whose underlying disease was slowly progressive. Several patients did obtain much longer remissions than would be expected considering the previous course of the disease. These results may reflect merely the extreme unpredictability of Hodgkin's disease.

It is of some interest, although of dubious statistical significance, to compare these results with those obtained in the earlier very similar series of 24 patients with Hodgkin's disease treated with nitrogen mustard alone.

TABLE III
REMISSIONS PRODUCED
(1st Treatment)

	HN2 alone	HN2 plus X-ray
Good -----	10	13
Fair -----	6	4
None -----	8	9
	—	—
Total -----	24	26

It appears that about the same proportion of patients may obtain remissions with nitrogen mustard alone as do with the combined therapy. However, when the duration of remissions is compared, there seems to be a decidedly larger number of long remissions when irradiation is added to the mustard therapy.

TABLE IV
DURATION OF REMISSIONS

Duration (months)	HN2 alone	HN2 plus X-ray
0	8	4
1/2	2	4
1	5	3
2	3	3
3	1	1
4	2	1
5	0	0
6	1	2
7-12	1	4
12 plus	0	4
unknown	1	0
	—	—
Total	24	26

These results are not unexpected, considering the generally more lasting effect of irradiation. It was also our impression that the resolution of nodes receiving irradiation combined with nitrogen mustard was usually more complete than has been observed with nitrogen mustard alone.

Comparison of these results with those that might have been expected from irradiation alone is difficult. Probably equally good results could have been obtained in many cases by fractionated doses of X-rays. We have no specific evidence that destruction of tumor tissue by this method is greater than can be accomplished by irradiation alone. However, in the

advanced stage of the disease presented by most of these patients, it has been our experience that prolonged irradiation of many sites is necessary to effect a remission; and this often cannot be accomplished simply from lack of time. We believe that the combined treatment has brought these patients under control much more promptly than would have irradiation alone, and that the completeness and duration of remissions produced are at least equal to those obtained by serial irradiation.

Where resolution of nodes or tumor was incomplete a month after treatment, the combined course was repeated provided blood counts were satisfactory. When relapse occurred after a satisfactory remission combined treatment was usually repeated; but when the recurrence was local only, irradiation alone was sometimes given. The results of subsequent courses of combined treatment in general paralleled those obtained initially. Some tendency to diminishing effectiveness of successive courses was observed, which is probably attributable to the natural progression of the disease.

At the present time 11 of the 26 patients are living.

Lymphosarcoma: Six patients with lymphosarcoma received combined treatment. All six had generalized disease and in four the rate of progression was rapid. Four patients had received previous irradiation.

The results of combined treatment were considered good in four and fair in two. Enlarged nodes decreased in size and symptoms were relieved. In one patient with hepato-splenomegaly and ascites the organs returned to normal size and the ascites was relieved for three months. All six patients have subsequently died with periods of survival ranging from 3 to 19 months after treatment.

In general, the results of combined treatment paralleled those of previous irradiation, but in two cases the combined treatment gave a decidedly better response.

Reticulum Cell Sarcoma: One patient with reticulum cell sarcoma was treated on two occasions. A good response lasting three months was obtained after the first treatment, but only fair improvement followed the second course. Subsequent treatment with irradiation alone also produced only fair results.

Carcinoma of the Lung: 10 patients with inoperable carcinoma of the lung were treated. In all

the cancer was growing rapidly. Four were in very poor general condition at the time of treatment and the response was nil. The other six patients obtained some degree of symptomatic improvement such as relief from pain or cough. In four there was definite clearing of the chest X-ray either from diminished secondary infection or from actual diminution in the size of mediastinal nodes. One patient with metastatic tumor to the skull had the irradiation directed to the skull with a decrease in the size of the tumor there, but with no effect on the size of the mediastinal masses to which no X-rays were directed. Five (50%) of the patients were dead within 2 months of therapy, and the other five died within six months of the combined treatment. One of the early deaths occurred during surgery undertaken when a review of the original lymph nodes obtained on exploratory thoracotomy failed to substantiate spread into the hilum.

These results indicate possible palliation of symptoms as a result of treatment, but it is doubtful that any lives were prolonged.

Miscellaneous Neoplasms: No beneficial effect of combined treatment was observed in two patients with carcinoma of the rectum; in one with carcinoma of the larynx; in one with adenocarcinoma of the parotid; in two with sarcomas of the thigh; or in one with teratoma testis. One patient with malignant mixed tumor of the parotid with local spread and pulmonary metastases showed marked clinical improvement following treatment. Serial chest radiographs showed almost complete clearing of the pulmonary metastases with no new lesions developing until 11 months later when lung lesions recurred and in addition skull metastases were noted. A second course of combined therapy with the irradiation directed to the skull was without beneficial effect. One patient with a cerebellar medulloblastoma showed transient relief of increased intracranial pressure following therapy but the course of the disease was unaltered.

DISCUSSION

This particular plan of therapy was chosen initially with the idea that nitrogen mustard and irradiation given in close sequence might have a summative effect in the destruction of tumor tissue, greater than the effect produced by either agent alone. As to whether this has been accomplished the results

give no clear-cut answer. Tumor tissue has been destroyed, but nothing approaching total eradication has been seen and tumor has recurred locally in the most effectively treated sites.

It is probably fairer to state that this method of treatment combines the desirable palliative features of nitrogen mustard and of irradiation. The rapid and generalized effects of nitrogen mustard are obtained together with the more complete and lasting effects of local irradiation. Thus the clinical effects complement each other whether or not any summation occurs.

These cases demonstrate that the two agents can be combined with reasonable safety and without excessive destruction of bone marrow, provided leukopenia is not present prior to treatment. The leukopenia produced in some instances suggests, however, that maximum tolerated doses are being approached. The 0.3 mgm. per kilogram body weight dose of nitrogen mustard is probably maximal if irradiation is to be added. Our experience suggests that optimal irradiation effect can be obtained with tumor doses not exceeding 800r.

There may well be better ways of combining the nitrogen mustard and irradiation. If the effects are complementary rather than actually summative, the close timing of the two treatments may not be necessary. We have recently begun giving irradiation the day following the administration of nitrogen mustard. Roentgen therapy might be divided rather than given as a single dose. Only by extensive trial of various combinations can an optimal schedule be determined.

One very important merit of this particular program is the shortening of the period of hospitalization for the patient. The treatment can be rapidly given and in many instances the patient may be discharged in a few days to have the blood counts followed outside the hospital. For those patients with advanced disease and only a few months to live, palliation means but little if the remaining days are to be spent undergoing treatment in a hospital away from home and family.

CONCLUSIONS

1. Observations are presented on the combined use of nitrogen mustard and a single large dose of irradiation in the treatment of 52 patients with lymphomata and other malignant tumors.

2. This type of therapy is well tolerated, the toxic effects being usually no greater than with nitrogen mustard or irradiation alone.

3. This type of treatment has its greatest value in advanced cases of Hodgkin's disease where the beneficial effects of nitrogen mustard and irradiation appear to complement each other.

4. In lymphosarcoma and reticulum cell sarcoma the combined treatment may be of some value.

5. A definite palliative effect may be obtained in certain cases of inoperable carcinoma of the lung.

6. Results in other types of neoplasms generally are poor.

7. Other possible techniques of combining nitrogen mustard with irradiation are discussed.

5901 Patterson Avenue.

(Dr. Rose)

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Report Longevity of Patients with High Blood Pressure.

Patients with benign essential hypertension, a high blood pressure condition of long standing and unknown cause, may live a long and effective life. It has been estimated that most of the high blood pressure cases fall into that classification. The conclusion was based on an observation of 100 cases followed personally by Drs. James P. O'Hare and Robert B. Holden of the Peter Bent Brigham Hospital over periods ranging from 10 to 34 years, with an average of more than 17 years. Their report was published in the August 16 J.A.M.A.

The Boston doctors said that of the 100 patients, 47 are in "good" condition, 19 in a "fair" state of health and only five in "poor" condition. Twenty-nine deaths have occurred, the main causes being brain hemorrhages, blood clots and heart failure, complications which usually developed late in the disease.

There were 67 women and 33 men in the series, and this predominance of women may account for the longevity and generally favorable course, the doctors explained. They pointed out that it is

generally agreed that women as a class withstand hypertension better than do men. The average age at onset of the disease was 45 years.

Knowledge of the good prospects for such patients should help to avoid creating "blood pressure neurotics."

Primaquine, New Drug, Prevents Malaria Relapse.

Announcement is made in the August 23 issue of the J.A.M.A. of the development of a new antimalarial, primaquine, which destroys the parasite causing relapsing malaria and is cited by U. S. Army medical authorities as the most effective preparation known for the prevention of relapses.

Reports on the new compound and on its therapeutic efficacy are contained in a series of four papers in the AMA Journal. The reports cover studies conducted by teams of malaria experts working under the sponsorship of the Office of the Surgeon General, U. S. Army, and the U. S. Public Health Service.

Primaquine was synthesized at Columbia University during the World War II antimalarial research program by Dr. R. C. Elderfield and associates.

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.
Virginia State Health Commissioner

More About Isoniazid and Its Derivatives

On June 4, 1952, the Federal Food and Drug Administration officially lifted its ban on use of isoniazid and its derivatives for other than research purposes. Since that date, the drugs have been available to all practicing physicians, and in drug stores upon prescription. During recent months additional information has been added to basic knowledge concerning action of the drugs. Some of these revelations are of vital significance for the physician who is now using or who plans to employ them as therapeutic agents.

A brief progress report of discoveries which, to date, have evolved from systematic study programs currently being conducted by a number of hospital groups and independent investigators, is presented editorially in the July 26 issue of the *Journal of the American Medical Association* under the title, "Caution in the Chemotherapy of Tuberculosis." First, this account states,

"These drugs have shown definite but limited therapeutic activity against human tuberculosis, but there is much concern among workers in this field that their potential value may rapidly be neutralized if they are used improperly or indiscriminately by those not trained in the treatment of tuberculosis."

Even specialists with years of experience in tuberculosis therapy are enjoined by some well-known investigators* to use the new agents "only in combination with another tuberculostatic drug effective against tubercle bacilli of the patient." They contend that when streptomycin and isoniazid are used consecutively, the tubercle bacillus becomes resistant to each in turn, regardless as to which has been administered first. No instance has been reported, to date, in vivo or in vitro where tubercle bacilli have become resistant to either streptomycin or isoniazid or both when administered concurrently.

To quote further from the *Journal*,

"They, like other forms of chemotherapy, must be used as adjuncts to the time-tested measures of bed rest, collapse therapy, and surgical procedures. Moreover, as adjuncts they have not yet proved clinically superior to, or even as effective as, the combination of streptomycin and *p*-aminosalicylic acid in the treatment of tuberculosis."

The Superintendent and Medical Director of one of Virginia's State Tuberculosis Sanatoria subscribes to an almost identical tentative conclusion in his 1952 Annual Report as follows:

"Our present impression is that this drug is perhaps not as good as streptomycin and PAS in the treatment of tuberculosis***."

Preliminary reports recently prepared by each of the three state sanatoria upon the first sixteen patients treated by isoniazid in these institutions tend to bear out this opinion. The *Journal* goes on to say,

"Still another hazard in the use of these drugs is that of inadequate dosage. Since there has not yet been time for adequate long-term evaluation of different dosage schedules for the different forms and stages of tuberculosis, it is obvious that no statement about optimum dosage or duration of administration can be made."****

"Random use of the drugs on an empirical basis can result only in waste, inefficiency, inconclusive results, and harm to some patients."

The editorial in The *Journal* further states:

"According to the Committee on Therapy of the American Trudeau Society, 'isolated instances of intractable asthma, persistent hypotension, and increased susceptibility to the effects of other drugs (particularly epinephrine, ephedrine, atrophine, and demerol) and even deaths have been reported in patients receiving isoniazid or its isoprophyl derivative, but the causal relationship has not been clearly established. Minor untoward effects which have been reported are hyperreflexia, constipation, postural hypotension and dizziness, difficulty in starting micturition, eosinophilia, and the appearance of casts, albumin, and reducing substances in the urine. Routine precautions during treatment should include frequent neurologic examinations, blood counts, urinalyses, and tests for renal and hepatic insufficiency. As both drugs are excreted through the kidneys, impairment of renal function may result in the cumulation of toxic concentrations of the drug in the body. For this reason, the renal function should be measured before treatment and, if it is impaired, the dose should be reduced accordingly.'"

Almost no undesirable side effects are recorded in the state sanatorium series; on the contrary, two patients previously described as "listless, sullen, depressed" became "alert, cheerful, interested in surroundings ***" during course of treatment. These patients had not been classified as mental patients.

The outstanding reference in the resume, how-

ever, is to a fact which heretofore has not been widely publicized, i. e. the very great tendency of the tubercle bacillus to become resistant when isoniazid is administered alone. Isoniazid, therefore, according to Grace, et al* should be given only with streptomycin and *p*-aminosalicylic acid to patients whose tubercle bacilli have not previously become resistant to streptomycin so that both drugs will be effective at the same time. Unfortunately, this recommendation will nullify completely one of the chief attributes of isoniazid—that of oral administration. Patients would still be required to take streptomycin by needle in order to take isoniazid by mouth.

No information is at hand on a possible combination of isoniazid and *p*-aminosalicylic acid. Should research show that the latter drug reduces the tendency of isoniazid (used alone) to build up resistant strains of tubercle bacilli, and should isoniazid be found eventually, in combination with *p*-aminosalicylic acid, to be essentially comparable in effectiveness to streptomycin and *p*-aminosalicylic acid, the need for hypodermic administration in tuberculosis drug

*Grace, Bryson, Szybalski, Demerec, Cold Spring Harbor, New York in a letter addressed to The Editor and published in the July 26, 1952 issue of *The Journal of the American Medical Association*.

therapy may yet be circumvented. In the meantime, according to the best available authority, The Journal of the American Medical Association, if isoniazid is to be used at all, the ideal or safest treatment, for other than research purposes, seems to be its concurrent administration with streptomycin and *p*-aminosalicylic acid, with appropriate safeguards, whenever drug therapy for tuberculosis appears to be indicated.

MONTHLY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL				
	Aug. 1952	Aug. 1951	Jan.- Aug. 1952	Jan.- Aug. 1951
Brucellosis	6	12	27	54
Diarrhea & Dysentery	352	423	1736	1765
Diphtheria	4	4	56	76
Hepatitis	64	1	483	12
Measles	175	163	15277	13681
Meningitis				
(Meningococcic)	11	4	139	87
Poliomyelitis	270	53	345	94
Rabies in Animals	20	30	346	148
Rocky Mt. Spotted Fever	18	17	60	52
Scarlet Fever	14	14	547	702
Tularemia	0	6	33	30
Typhoid & Paratyphoid	22	5	66	34

New Books.

The Tompkins-McCaw Library of the Medical College of Virginia, Richmond, announces the following new books on their shelves. These are available to our readers under usual library rules.

Bierman—Cancer learning in the medical school. 1952.
Cleckley—The mask of sanity. 2nd ed., 1950.
Dodson and Gilbert—Synopsis of genito-urinary diseases. 5th ed., 1952.
Dunton—Prescribing occupational therapy. 2nd ed., 1945.
Faddis & Hyman—Care of the medical patient. 1952.
Hudson—Occupational therapy in treatment of the tubercular. 1944.

Kessler—Principles and practice of rehabilitation. 1950.
Menninger—A guide to psychiatric books. 1950.
Menninger—A manual for psychiatric case study. 1952.
Moyer—Fluid balance. 1952.
Padgett and Stevenson—Plastic and reconstructive surgery. 1948.
Progress in neurology and psychiatry. Vol. 7, 1952.
Scobee—The oculorotary muscles. 2nd ed., 1952.
Vandervelt and Odenwald—Psychiatry and Catholicism. 1952.
Walker—Physical diagnosis. 1952.
Warren and Le Compte—Pathology of diabetes mellitus. 3rd ed., 1952.

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.

Commissioner, Department of Mental Hygiene and Hospitals

Effects of General Population Trends on Mental Hospital Populations*

As plans go forward for treatment and care of the mentally ill, factors that affect the extent of mental illness must be taken into consideration. One of the main factors is the increase in general population and the fluctuation in the various age groups.

The census taken by the U. S. Census Bureau, showing age groups of the general population, reflects the expectancy of the various age groups being admitted to mental hospitals.

The group under 5 years of age, as reported for the Commonwealth of Virginia in the 1940 census¹, was only an increase of 4% over the same age group in 1930². Those 5 to 14 years of age decreased 10% in the same period. These two age groups cover those born from 1925 to 1940. The first admission rate of this age group to the hospitals for 1940 to 1950 showed a decrease of 20%. This decrease may be expected to extend itself for the next ten years (to 1960), which affects particularly the age group in which schizophrenia (dementia praecox) is the primary mental illness. As the increase in general population for 1950¹ over 1940 shows only 4% increase in the 15 to 24 year age group, this adds emphasis to an anticipated reduced rate of schizophrenia for the next ten years.

With the increase of 56% of those under 5 years of age in 1950 over 1940¹ in the general population, as they grow to the age group affected more with schizophrenia by the years 1960 to 1970, an increase in this group could be expected. At the same time a decrease may be expected in the age group primarily of the manic-depressive type of mental illness because of the general decrease of those born from 1925 to 1940. These facts should be considered in planning facilities and treatment programs.

There will also be other factors entering into this situation, such as education, economic factors, etc. From the high increase of those born from 1945 to 1950, an increase of referrals of children to mental hygiene clinics may be expected within the next 15 years. This early treatment stage may have an ef-

fect on increases in first admissions to mental hospitals.

The geriatric problem is going to be one of increasing intensity. The increase has already begun to be felt and as physical medical treatment advances, the life expectancy advances. The average expectancy of those born in 1900 was 49.2 years³. For those born around 1930, this had increased to approximately 61 years and around 1950 to approximately 68 years. Those aged 65 and over increased for Virginia in 1940 over 1930² by 32% and in 1950 over 1940¹ by 38.5%. The first admissions to mental hospitals of this age group increased in 1950 over 1940 by 61% and the resident population increased 45% in this same age group. (Ages of admission and resident in hospital not available for 1930 to show 1930 to 1940 ratio.)

The graph, Figure No. 1, shows the increase or decrease by age groups for the general population and patients admitted to and resident in State mental hospitals. In reading this chart, the change in general population in the years 1930 to 1940 reflects itself in a group 10 years higher for hospitals, i.e., those under 5 years in 1930 would be reflected in the 15-24 age group for hospital admissions and population in 1940 to 1950.

Even though the number of admissions and the hospital population have increased in the past 13 years, the rate to general population has shown a downward trend. (The period of 1939 through June 30, 1952, is being used, these figures being compiled by the Statistical Division of the Department of Mental Hygiene and Hospitals.) In 1940 the rate of patients in residence in the four mental hospitals was 342.4 per 100,000 of general population; in 1952 this rate was 305.1. The high point was in 1942 with a rate of 351.2 and the low point was 1951 with a rate of 298.4. Except for a drop in numerical population in the hospitals in 1943 and 1944, the hospital population has generally increased. The graph, Figure No. 2, shows the rate to general population and actual number in hospital.

The total admission rate has fluctuated more than resident population. The number of admissions for

*Article by Edna M. Lantz, Statistician, Department of Mental Hygiene and Hospitals.

1952 reached a high of 3,265; the low was in 1944, a total of 2,246. The low point of rate to general population was also 1944; the high was 1939. The

The first admission rate per 100,000 was generally downward, and also the number of admissions. The high point was 92.3 per 100,000 in 1939 with

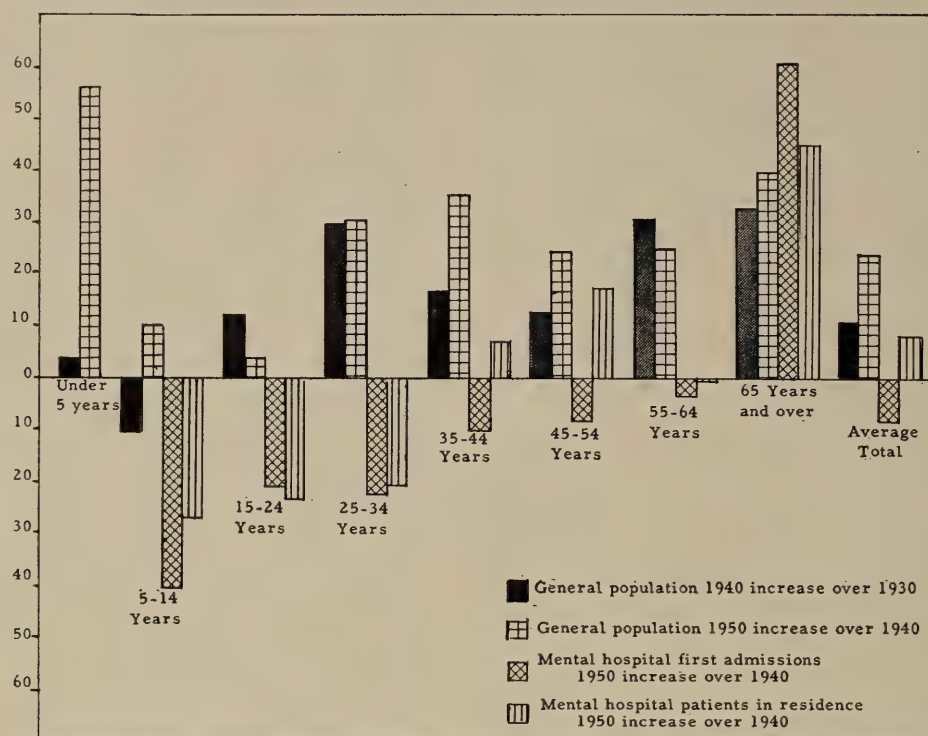


Fig. No. 1. Comparison of increase in age groups of general population, 1940 over 1930 and 1950 over 1940 and the increase of first admissions and hospital resident population of 1950 over 1940.

number of admissions and rate to general population is shown in Figure No. 3.

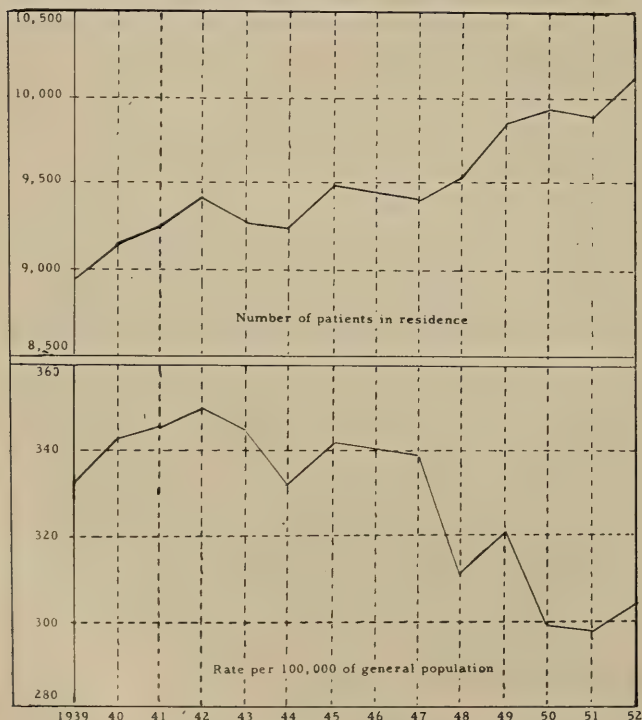


Fig. No. 2. Comparison of number of patients in residence in state hospitals and rate to general population for years 1939 - 1952.

the low point in 1951 of 54.1 per 100,000 of general population. The low point in the number of first admissions was 1944 with 1,597; the high was 1939 with 2,471. The first admissions at the beginning of the period is weighted slightly because a standard definition of a first admission was not in

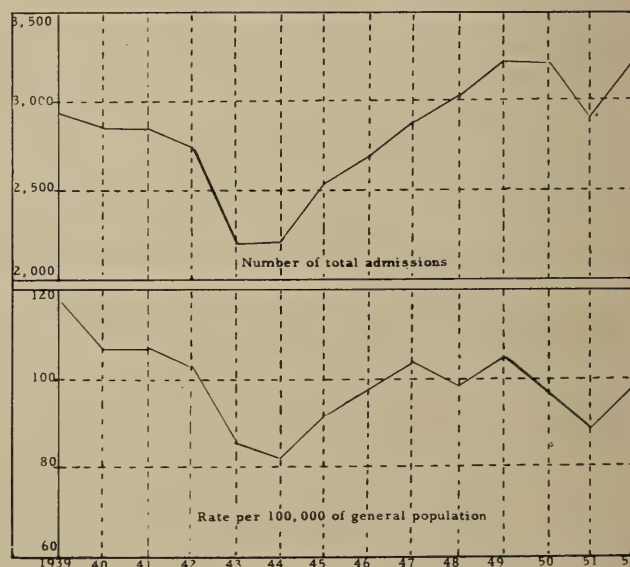


Fig. No. 3. Comparison of number of total admissions to state hospitals and rate per 100,000 of general population for years 1939 - 1952.

use. The readmissions increased during the period—this is weighted by readmissions of the same person more than once during the period, so is not a true picture of a rate to general population, but has to be taken into consideration in planning hospital facilities. The graph, Figure No. 4, depicts the rate per

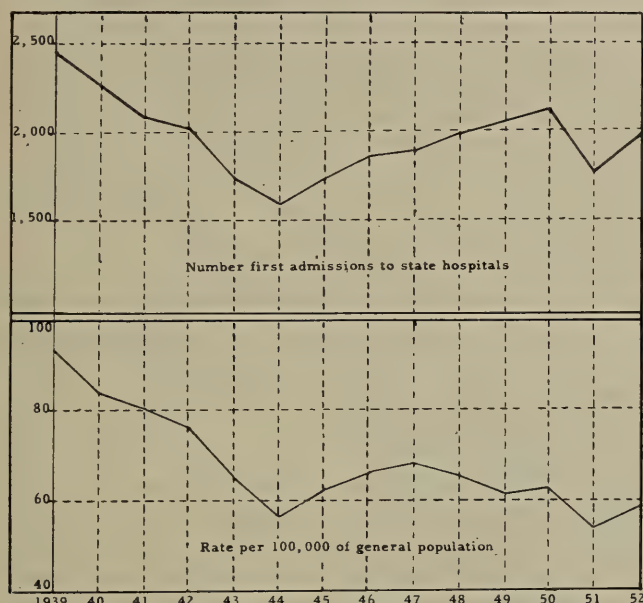


Fig. No. 4. Comparison of number of first admissions to state hospitals and rate per 100,000 of general population for years 1939 - 1952.⁽⁴⁾

100,000 of general population and number of first admissions for this period.

The trend for those aged 60 and over as first admissions is rising. The percentage of first admissions of those 60 years of age and over was 19.2% in 1940 and 32.6% in 1951 (1952 age groups have not been tabulated at this time), an increase of 13.4%. Those in hospital increased from 26.0% to 33.2% for the same period, an increase of 7.2%. This is becoming a large problem for administrative officials. The scope of this trend will not be given

in this article, as it should be developed from its own standpoint.

The general population in Virginia increased 23.9% in 1950 over 1940¹. The increase in hospitals for this decade is not high in the lower age groups due to the low percentage of increase in the 15-24 years of age group. However, if the increase in the rate of those under 5 years of age is used as a basis for future planning, we should expect an increase in hospital admissions and population beginning with about 1970. This may be reaching rather far into the future, but barring other unforeseen factors, general population will have to be considered, as it has definitely been a factor in the past. However, it is hoped that the rate of incidence of mental illness, measured by those admitted to mental hospitals per 100,000 of general population, will continue on its downward trend and offset at least some of the natural increase in population.

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1. U.S. Department of Commerce, Bureau of Census, Series PC-12-No. 35—August 22, 1951 release—for 1940 and 1950 age groups.
2. U.S. Census Population, Volume III, Part 2, 1930 Census, Page 1142, for 1930 age groups.
3. Life Insurance Fact Book 1950, Page 76, Published by Institute of Life Insurance, N. Y.
4. 1939-1942 population rate based on 1940 Census, U. S. Census Bureau.
1943-1946 population rate based on 1943 estimated population by Bureau of Population and Economic Research, University of Virginia.
1947-1949 population rate based on 1947 estimated population by Bureau of Population and Economic Research, University of Virginia.
1950-1952 population rate based on 1950 Census by U.S. Census Bureau.

**WOMAN'S AUXILIARY
TO THE
MEDICAL SOCIETY OF VIRGINIA**

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Southern Medical Auxiliary Invites Wives to Miami.

The Southern Medical Association meets in Miami, Florida, November 10-13, 1952, and all indications are that it will be a meeting to be long remembered. The hospitable Miamians are going all out in planning a delightful social program for the ladies...

A (tentative) Auxiliary program is as follows:

Sunday, Nov. 9.....	Special Executive Committee meetings
Monday, Nov. 10.....	Luncheon for Past Presidents Luncheon for Councilors
Tuesday, Nov. 11.....	Executive Board Breakfast General Sessions Doctors Day Luncheon Other social activities, including a Fish Fry on the beach

Doctors Urged to Send in Poisoning Reports.

The Committee on Pesticides of the American Medical Association currently is undertaking a country-wide toxicological study of cases of poisoning resulting from the use of insecticides, rodenticides, fungicides, weed killers, fumigants, repellents and related types of chemicals used in agriculture and the home. This information will be used to expand its permanent file of such cases for use by physicians and allied medical personnel.

Wednesday, Nov. 12...General Sessions

Luncheon honoring the President, Mrs. V. Eugene Holcombe, the President-Elect, Mrs. Richard Stover, visiting State Presidents and Charter Members

Thursday, Nov. 13...Executive Board Banquet

The Auxiliary to the American Medical Association will furnish two of the speakers. Mrs. Ralph B. Eusden, President of the Auxiliary to the A.M.A., will discuss the aims and general program of the Auxiliary, and Mrs. John McCuskey, a vice Chairman, will speak on nurse recruitment.

Wives attending the Southern Medical Association meeting with their husbands are cordially invited to attend all activities of the Auxiliary.

All reservations for luncheons should be made early.

Mrs. W. R. Payne, Hampton, is councilor from the Virginia Auxiliary, and Mrs. H. W. Farber, Petersburg, vice-councilor. Mrs. M. R. Emlaw, Richmond, is vice-chairman of Doctors' Day Committee of the Southern Medical Association.

Northampton-Accomac Auxiliary.

Mrs. John Wise Kellam, president of this Auxiliary, and Dr. Kellam entertained the members of the Auxiliary and of the local medical society at a buffet supper at their cottage at Silver Beach on July the 8th. Mrs. Herman Farber, president of the State Auxiliary, Dr. Farber and their two sons were guests of honor, and a number of doctors and their families also attended.

Since much of the Committee's information on pesticide poisoning has been compiled from unpublished isolated cases which were brought to its attention, the Committee appeals to physicians to submit records on cases of non-fatal and fatal poisonings from pesticides. The Committee points out that summary data on the pertinent facts of the poisonings and the circumstances of their occurrence would be sufficient in most instances. The Committee is functioning as a center for reporting this type of poisoning cases.

EDITORIAL

James Loving Hamner

Our New President

AS HAS been true so frequently in the long line of its presidents, the Medical Society of Virginia is indeed fortunate in the selection of "Jim" Hamner to guide it for the coming year. There are few men who have been more diligent in attendance of meetings, committee assignments, and work as a member of the Council for eight years.

Of James Loving Hamner, "Who's Important in Medicine" has the following to say:

"General Practitioner; born October 12, 1893, Ammon, Virginia; son of William D. and Nancy Harriet (White) Hamner; educated at Lynchburg College; Medical College of Virginia; Medical Doctor 1916; married Rebecca J. Sydnor, April 17, 1930;



JAMES LOVING HAMNER, M.D.
President, The Medical Society of Virginia.

one son—James Loving, Jr., Interne, Grace Hospital, 1916-1917. Lieutenant, Medical Reserve Corps, and Lieutenant, Medical Corps, Army of the United States, 1917-1920. Engaged in general private practice of Medicine, Mannboro, Virginia, 1920-. Resident, Willard Parker Hospital, New York City, 1928 (three months). Co-Editor, Department of General Practice, Southern Medical and Surgical; Consultant in General Practice, Current Medical Digest. Director and President of Board, Union Bank

and Trust Company, Amelia, Virginia. Member, State Board of Health, Virginia; Member Executive Committee Virginia Council on Health and Medical Care. Fellow, American Medical Association. Member: Southern Medical Association; Tri-state Medical Society of Virginia and the Carolinas (Ex-Vice-President and Member of Council); Medical Society of Virginia (Ex-Member of Council); Fourth District Medical Society of Virginia (Ex-President); Amelia County Medical Society (Ex-President); American Academy of General Practice; Virginia Academy of General Practice (Ex-President). Clubs: Amelia County Bird, Dog, Ruritan. Hobbies: Farming (raising registered Hereford cattle,) fishing, hunting.

Dr. Hamner is still in active practice in Mannboro, Virginia."

"Jim" Hamner is vitally interested in public health. After helping organize the Amelia County Board of Health, he was its Executive Secretary for twenty-five years, and at present he is serving as a member of the State Board of Health, being on its Executive Committee, as well as its Vice-President. Piedmont Sanatorium utilizes him on its Board of Visitors.

No bibliographical data could indicate the esteem in which our incoming President is held by his patients, neighbors, and fellow physicians. Surely his area needs no Public Relations Committee, for in addition to his bank interest, he has been Chairman of the Amelia County and Ninth Senatorial District Democratic Committee since 1928; Founder, Past President and Director of his county's Beef Growers and Live-stock Association; first commander of the local American Legion Post; as well as first President of the Amelia Golf Club, and is active in the Parent Teachers Association. "Jim" is a Mason, and a member of Phi Rho Sigma Fraternity. He is active in Church circles, and is a member of the Church Board of the Disciples of Christ Church. During World War II, he served as a member of the Advisory Board and Medical Examiner for the local Selective Service System.

With respect and humility, let us forget our stock plea of "too busy" and make the coming year one of continued progress under one who leads by serving.

F.J.W., JR.

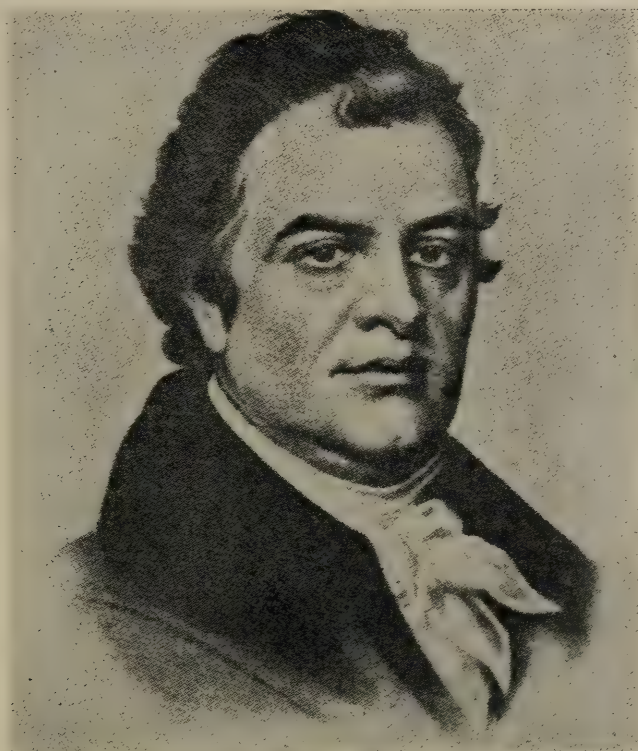
David Hosack, 1769-1835

THAT this great New York physician of the early nineteenth century, an authority on yellow fever, a botanist of international reputation, professor at various times of botany, of materia medica, surgery and midwifery, of the theory and practice of physic and clinical medicine, and editor, began the practice of medicine in Alexandria, Virginia, will come as a surprise to many of our readers. He was advised by Dr. Benjamin Rush to take this step upon his graduation at the University of Pennsylvania in 1791. Rush argued that Alexandria was likely to become the capitol of the nation. Accordingly he went to Princeton, married Miss Catherine Warner and took his bride to Virginia. In Alexandria he became the friend of Dr. Gustavus Brown of Maryland and Virginia and frequently visited Dr. Brown's beautiful botanical garden at Rose Hill. Here Dr. Brown taught him to know and love plants. This is the first mention of Dr. Hosack's interest in botany.

In 1792 he decided that he needed to go abroad to complete his education so he left his wife and baby under the care of his father in New York and set sail for Liverpool. He did not take his trip too seriously, becoming acquainted with Robert Burns, all the great divines of Scotland and the medical men of Edinburgh. In London he

cultivated not only the teachers of medicine, but also the scientists, especially the botanists. He submitted a manuscript "Observations on Vision" to the Royal Society of London and received the thanks of that body.

In 1794 he returned to New York on the "Mohawk". The passage took fifty-three days and there was an outbreak of typhus fever on board. It fell to his lot, as he was the only physician on board, to treat these patients. All recovered and an unsolicited vote of thanks was published in the daily papers. Dr. Hosack seems to have been one of those persons who had the knack of always being in the center of things. In 1788 when he was a student in New York he was nearly killed in the famous "Doctor's mob",



DAVID HOSACK, M.D.

Courtesy of Annals of Medical History
Paul B. Hoeber, Inc., Publisher

and now he landed while a particularly malignant epidemic of yellow fever was raging in New York. His conduct and his success in treating these cases attracted the attention of Dr. Samuel Bard, a leading physician in New York, with the result that Dr. Bard took him into partnership. In the treatment of the disease, he pursued the sudorific regimen and disclaimed bleeding and mercury which was the accepted treatment. He also held strongly to the contagiousness of the disease. Epidemics followed in 1795, 1796, 1797 and 1798. In the latter he caught the disease. Other epidemics followed in 1803, 1805, 1819, and 1822. Dr. Hosack was regarded as an expert and in 1811 he was appointed on a committee to investigate the epidemic at Amboy, N. J. The report of this committee was written by Dr. Hosack and was published in the medical journals of Edinburgh and London.

Yellow fever occupied only a small part of Dr. Hosack's time. After three or four years Dr. Bard retired and left Dr. Hosack a large and lucrative practice. Besides he had a heavy teaching schedule, first as professor of botany, and materia medica,

later as professor of surgery, and midwifery and finally as professor of physic. He established the celebrated Elgin Botanical Garden near New York. In 1810, with the help of Dr. John W. Francis, he started the *Medical and Philosophical Register*, and was its editor for a number of years. He was Alexander Hamilton's physician and attended him when he was killed by Aaron Burr in their famous duel.

Dr. Hosack founded the Humane Society and took part in civic movements, especially those for the benefit of the poor. He remodeled the City Dispensary so that it became useful both as a charity and as a school for young medical practitioners. The Dispensary played an important part in the introduction of vaccination. He was instrumental in the establishment of a fever hospital at Bellevue and cooperated with the "Medical Police" in their efforts to improve the sanitary conditions of the city.

He was also interested in education. He gave his extensive collection of minerals to Princeton and a number of valuable books to Columbia. The New York Hospital and Historical Societies profited much by his liberality.

Dr. Hosack's private life was a fitting complement to his public life. His home was a happy one and he kept an open house. He was married three times. He lost his first born child while he was in England, and his first wife died soon after he returned to this country. On December 21, 1797 he married Mary, the daughter of James and Mary Eddy and they had nine children. After the death of his second wife, he married Magdalena, widow of Henry A. Coster, and retired from practice. They established their residence at their beautiful place at Hyde Park where he lived the life of what we would call a gentleman farmer. In the fall of 1835 he returned to the city for the winter, as was his custom, and on December 18th he was paralyzed in his right arm. He died four days later, surrounded by his devoted family.

The Community Chest

THE season for Community Chest drives approaches and it behooves us to consider what it means to each community. Some thirty-five Virginia chests will have their annual campaigns in October. Since our readers are doctors of medicine, a group that knows the workings of the Community Chest Agencies, we need not go into great detail. They know with what care these agencies are chosen and supervised and above all the amount of happiness they create in the community. There is one aspect of the annual campaigns to which we wish to call attention. It is the sole opportunity of every member of the community, regardless of age or color, of sharing with one another the most satisfying of all human emotions, the joy of giving.

Floral Eponym

ASCLEPIADACEAE

AXCLEPIUS

The god of medicine and the son of Apollo is commemorated in botany by the milkweed family.

Asclepiadaceae is a widely distributed family of over 2000 species.

SOCIETIES

The Virginia State Board of Medical Examiners

Announces the following list of applicants who were licensed by the Board at its last regular meeting in June 1952:

BY EXAMINATION

- | | |
|--|---|
| Dr. William Cardwell Amos, Jr., Richmond. | Dr. Carroll Stanford Hamilton, Lynchburg. |
| Dr. Benjamin Norwood Anderson, Jr., Hot Springs. | Dr. Andrew Epes Harris, Jr., Richmond. |
| Dr. Richard Tuberville Arnest, Jr., Hague. | Dr. Kenneth Stebbins Helenbolt, Medina, N. Y. |
| Dr. George Ernest Arrington, Richmond. | Dr. William Edward Holladay, Jr., Gordonsville. |
| Dr. William Marshall Atkins, Petersburg. | Dr. Raymond Curtis Houghton, Portsmouth. |
| Dr. Thomas Alexander Baugh, Petersburg. | Dr. William Caswell Hughes, Suffolk. |
| Dr. Henry Vaughan Belcher, Norfolk. | Dr. Holcombe Harris Hurt, Jr., Lynchburg. |
| Dr. Kenneth William Berger, Brookline, Mass. | Dr. Robert Mercier Hutt, Alexandria. |
| Dr. Albert William Biggs, Winston-Salem, N. C. | Dr. Juan Francisco Jimenez, Richmond. |
| Dr. Frank Stoddert Blanton, Jr., Farmville. | Dr. James Edward John, Jr., Charlottesville. |
| Dr. Loyd Warren Bond, Roanoke. | Dr. Emily Edwards Jones, Smithfield. |
| Dr. David Moomaw Brillhart, Troutville. | Dr. Robert S. Kaplan, Norfolk. |
| Dr. Milton Henry Brockmeyer, Charlottesville. | Dr. Harvey David Karkus, Perth Amboy, N. J. |
| Dr. Melvin Hugh Burke, Strasburg. | Dr. James Burnett Kegley, Jr., Waverly. |
| Dr. Robert Oliver Burns, Lebanon. | Dr. James Bunting Kenley, Portsmouth. |
| Dr. John Fauntleroy Butterworth, III, Richmond. | Dr. Earle Jerome Kerpelman, Richmond. |
| Dr. Carey Jones Butler, St. Pauls, N. C. | Dr. Carson Meade Keys, Pontiac, Michigan. |
| Dr. Leonard Carroll Cantor, Miami, Florida. | Dr. Keith Eugene Kinsey, Staunton. |
| Dr. Marshall Jennings Carper, Galveston, Texas. | Dr. Paul Raymond Kleykamp, Ashland, Ky. |
| Dr. Quinton Oswald Carr, Broadway. | Dr. Jack Amory Lawson, Hampton. |
| Dr. Randolph Catlin, Jr., Charlottesville. | Dr. Lionel Melvin Lieberman, Front Royal. |
| Dr. William Belfield Cave, Charlottesville. | Dr. James Watts Lipscomb, Charlottesville. |
| Dr. Irvin Walters Cavedo, Jr., Richmond. | Dr. Mary Jane Luke, Charlottesville. |
| Dr. Gene Edward Clapsaddle, Roanoke. | Dr. Jason Eugene McClellan, Charlottesville. |
| Dr. Stanley Norman Cohen, Richmond. | Dr. William Benson McCutcheon, Jr., Durham, N. C. |
| Dr. Jesse Reece Cover, Charlottesville. | Dr. John Roger McDonough, Irwin. |
| Dr. James Wendel Creef, Norfolk. | Dr. James Porter McNeil, Jr., Jacksonville, Florida. |
| Dr. Kenneth Darte Crippen, Washington, D. C. | Dr. Arturo Torres Machin, San Lorenzo, Puerto Rico. |
| Dr. Ben Lake Critzer, Charlottesville. | Dr. Henry Page Mauck, Jr., Richmond. |
| Dr. Charles Harper Crowder, Jr., South Hill. | Dr. Ellis Franklin Maxey, Rustburg. |
| Dr. Jesse Wesley Cumbia, Charlottesville. | Dr. Bernard Herbert Miller, Norfolk. |
| Dr. John Speight Darden, Richmond. | Dr. Rose Marie Morecock, Richmond. |
| Dr. Nicholas Edward Davies, Clifton Forge. | Dr. Robert Alan Morton, Portsmouth. |
| Dr. David Barnes Drewry, Drewryville. | Dr. Thomas Addis Emmet Moseley, Jr., Richmond. |
| Dr. Meade C. Edmunds, Jr., Charlottesville. | Dr. Harry Leroy Munson, Roanoke. |
| Dr. Richard Thomas Ellison, Jr., Philadelphia, Pa. | Dr. John Alexander Murray, Springfield. |
| Dr. Kenneth Hall Epple, Essex Falls, N. J. | Dr. Maury Claiborne Newton, Jr., Narrows. |
| Dr. Martin Paul Fischer, Brooklyn, N. Y. | Dr. John Edward Osborne, Miannsburg, Ohio. |
| Dr. Richard Orville Flynn, Phoenix, Arizona. | Dr. Thomas Pairo Overton, Richmond. |
| Dr. Robert Lester Gibson, Winston-Salem, N. C. | Dr. Bernard Low Patterson, Roanoke. |
| Dr. John William Giesen, Richmond. | Dr. Edgar Elliott Peltz, Chicago, Ill. |
| Dr. William Carlyle Gill, Richmond. | Dr. William Clarke Pole, Charlottesville. |
| Dr. Gustave Lennard Gold, Boston, Mass. | Dr. Angelo I. Portela, Arecibo, Puerto Rico. |
| Dr. Harold Louis Goldman, Norfolk. | Dr. Ralph Price, Newport News. |
| Dr. William Stuart Greenspon, Bluefield, W. Va. | Dr. John Stuart Prince, Richmond. |
| Dr. Jerome Stanley Gross, Norfolk. | Dr. James Whitmell Ransone, Charlottesville. |
| Dr. Robert Humphreys Gruver, Arlington. | Dr. Harvey Pretlow Rawls, Suffolk. |
| Dr. William McLaurine Hall, III, Williamsport, Pa. | Dr. William Norton Reingold, Charlottesville. |
| | Dr. Beverly Lee Reynolds, Charlottesville. |
| | Dr. Gilbert Fletcher Rieman, Fredericksburg. |
| | Dr. William Morris Riggins, Jr., Hampton. |
| | Dr. Richard Ovid Rogers, Jr., Bluefield, W. Va. |
| | Dr. Herbert Leon Ruben, Richmond. |
| | Dr. Hugh Walter Rule, Kingsport, Tenn. |
| | Dr. Thomas Wirt Sale, Jr., Norfolk. |
| | Dr. Ernest Dabney Shackelford, Jr., Madison, Wisconsin. |

Dr. William Alexander Shelton, Keysville.
 Dr. Marion Moore Sherman, Jr., Hampton.
 Dr. Carter Ashton Sinclair, Charlottesville.
 Dr. Joseph H. Smith, Charlottesville.
 Dr. Richard Carl Snow, Hilton Village.
 Dr. Charles Hallacy Spencer, Tunica, Miss.
 Dr. Peter Weaver Squire, Richmond.
 Dr. William Rudolph Tabor, Bluefield, W. Va.
 Dr. James Royster Tarry, Norfolk.
 Dr. Aubrey Granville Tolley, Washington, D. C.
 Dr. Hubert George Tomlinson, Roanoke.
 Dr. Thomas Roper Travis, Richmond.
 Dr. William White Trigg, Jr., Petersburg.
 Dr. Phil Errington Trimmer, Jr., Richmond.
 Dr. Robert William Wash, Jr., Richmond.
 Dr. Fred Wasserman, Norfolk.
 Dr. George Alexander Weimer, Bethany, W. Va.
 Dr. Herbert L. Weinberg, Suffolk.
 Dr. Armistead Marshall Williams, Baltimore, Md.
 Dr. Frank Quinby Wingfield, Jr., Richmond.
 Dr. Edward Ashby Woods, Jr., Pedlar Mills.
 Dr. Melvin Earl Yeamans, Richmond.
 Dr. Phillip Clayton Yerby, III, Richmond.
 Dr. James Robert York, Stephens City.

BY RECIPROCITY OR ENDORSEMENT

Dr. Jean Jacobus Austin, Alexandria.
 Dr. Simeon Alexander Austin, Newport News.
 Dr. Norman Lee Barr, Washington, D. C.
 Dr. Robert Payne Beckwith, Jr., Richmond.
 Dr. Truett V. Bennett, Charlottesville.
 Dr. Lee Buckingham Brown, Charlottesville.
 Dr. Mary Liguori Cantlin, Richmond.
 Dr. Edward James Carry, Washington, D. C.
 Dr. Norman Kelley Chesley, Imboden.
 Dr. William Swindell Credle, Burlington, N. C.
 Dr. William Dona Damron, Richlands.
 Dr. Alfred F. DeMilia, Whitesville, W. Va.
 Dr. Herbert Harold Diamond, Washington, D. C.
 Dr. James Walsh Egan, Washington, D. C.
 Dr. John Foster, Norfolk.
 Dr. James Wilson Fullerton, Lebanon.
 Dr. James Wallace Gibson, Aldie.
 Dr. Joseph Burton Glenn, Washington, D. C.
 Dr. Southgate J. Green, Stonega.
 Dr. Kirby Thompson Hart, Jr., Petersburg.
 Dr. Charles Arthur Hefner, Roanoke.
 Dr. Esther Blanchard Herrell, Ekalaka, Montana.
 Dr. Jesse L. Herrell, Jr., Ekalaka, Montana.
 Dr. Marshall Davis Hogan, Jr., Bristol.
 Dr. Oscar Benwood Hunter, Jr., Washington, D. C.
 Dr. Ernagene Fortescue Ingram, Norton.
 Dr. Norman H. Isaacson, Washington, D. C.
 Dr. Thomas Ralph Jarvis, Jr., Galax.
 Dr. Edwin Pratt Jordan, Charlottesville.
 Dr. Leo Nicholas Kirch, Norton.
 Dr. Willem Frederik Kremer, Morrisdale, Pa.
 Dr. Alfred Henry Lawton, Herndon.

Dr. John Albert Martin, Roanoke.
 Dr. Joe Henry McCormick, Jr., Petersburg.
 Dr. James DeWitt Mills, Jr., Alexandria.
 Dr. Alfred B. Miller, Philadelphia, Pa.
 Dr. Alvin Benzoin Herbert Mirmelstein, Newport News.
 Dr. Eulaine Naiden, Alexandria.
 Dr. Ira Weiss Pearlman, Washington, D. C.
 Dr. Alec Ambrose Preece, Washington, D. C.
 Dr. W. Glenn Reed, Richmond.
 Dr. Robert Albert Rounds, Falls Church.
 Dr. Douglas Pendleton Rucker, Durham, N. C.
 Dr. Lauren Howe Smith, Bryn Mawr, Pa.
 Dr. Archie Reid Sutherland, Clintwood.
 Dr. George William Thoma, Jr., Richmond.
 Dr. Ralph Matthew Thompson, Alexandria.

The Midtewater Medical Society

Held its regular quarterly meeting at Urbanna on July 22, 1952. This was the 25th anniversary meeting of this society, which was organized on June 27, 1927. Dr. John T. T. Hundley, President of the Medical Society of Virginia, brought greetings from the State society. A brief history of the society was presented by the secretary, Dr. M. H. Harris.

The program consisted of a Panel Discussion of Ulcer of the Stomach. Dr. J. M. Hutcheson, presided and Drs. Frank S. Johns, R. D. Bates, and T. D. Davis assisted in presenting the subject, with reference to cause, management, medical and surgical treatment, and the course.

The next meeting of the society will be held on the 4th Tuesday in October.

The Lynchburg Academy of Medicine

Held its first Fall meeting at a dinner on September 8th. The guest speaker was Dr. W. W. Scott, Professor of Urology at the Brady Clinic, Johns Hopkins Hospital. His subject was the "Diagnosis and Treatment of Operable and Inoperable Carcinoma of the Prostate".

The Roanoke Academy of Medicine

Held its regular meeting September 15 at which time the new officers elected in May were installed. Dr. J. E. Gardner succeeded to the presidency, and the following were to serve with him: President-elect, Dr. C. D. Nofsinger; vice-president, Dr. Charles B. Smith; and secretary-treasurer, Dr. M. A. Johnson, III. Two new members of the Executive Committee will be Dr. Mortimer H. Williams and Dr. Philip C. Trout. New members of the Judiciary and Ethics Committee are Dr. R. S. Owens and Dr. Allen Barker.

NEWS

A Conference of Cardiovascular Disease

Is to be held at the University of Virginia October 24, starting at 9:00 a.m. in McKim Hall (Nursing School Auditorium). Following the welcome by Dr. Lippard, dean of the Department of Medicine, there will be talks by Dr. Julian R. Beckwith of Clifton Forge, and by Drs. Norman F. Wyatt, J. Edwin Wood, Jr., Preston B. Lowrance, Alto E. Feller and George R. Minor of the University. Lunch will be at 12:30 following which the speakers will be Dr. Edward S. Orgain of Duke University, Dr. Wood and Dr. William Parson of the University. Dr. Howard R. Sprague of Boston will give a lecture at 8:00 p.m. in the Medical School Auditorium, his subject being "Fear of Heart Disease".

Physicians planning to attend the Conference should register promptly with the Office of the Dean, Department of Medicine, Charlottesville, Virginia.

The Southern Medical Association

Is to hold its annual meeting in Miami, Florida, November 10-13, under the presidency of Dr. Robert J. Wilkinson of Huntington, West Virginia. All activities will be in the Municipal Auditorium in Bayfront Park and in nearby hotels, everything in walking distance. Regardless of the wishes of attending physicians, there will be a program of interest to all. Good hotel accommodations are available.

The American College of Physicians.

The 34th Annual Session of the College will be held at Atlantic City, N. J., April 13-17, 1953, under the Presidency of Dr. T. Grier Miller of Philadelphia, and the Chairmanship of Dr. Hilton S. Read of Atlantic City. In view of the Session being held in a non-medical center where numerous hospital clinics may be arranged, the Program Committee is extending the program of televised clinics in color, panel discussions, clinical-pathological conferences and symposia.

The American College of Physicians is offering eight (8) postgraduate courses of 1 week's duration each, beginning the end of September. These courses are organized for advanced work and are especially devised for specialists. There are courses in in-

ternal medicine, cardiology, hematology and gastroenterology, and they are given at various medical centers, such as New York City, Pittsburgh, Atlanta, Boston, Chicago, Philadelphia, San Francisco and Baltimore. Detailed Bulletins are available through the Executive Secretary, American College of Physicians, 4200 Pine Street, Philadelphia 4, Pa.

The second Tele-Clinic film featuring highlights of the Annual Session of the American College of Physicians held at Cleveland, Ohio, April 21-25, 1952, has now been concluded, and is available for showing before medical societies, hospital staffs and other interested groups. To reserve the film, communicate with Mr. Frank C. Garvin, Wyeth, Inc., 1401 Walnut Street, Philadelphia 2, Pa.

An Appreciation.

The *Journal of the History of Medicine and Allied Sciences*, in its Summer issue, commended our Editor, Dr. M. Pierce Rucker, on his excellent editorial, "A Medical Map of Historic Virginia". This appeared in the February 1952 *Monthly*, and represented a great deal of research and study. It is gratifying to know that his efforts have been appreciated.

New Clinical Journal.

A new monthly Journal entitled *Obstetrics and Gynecology*, sponsored by the American Academy of Obstetrics and Gynecology, will appear in January, 1953. It will publish original articles, reviews, clinical notes, editorials, and book reviews covering the entire range of clinical obstetrics and gynecology.

The Academy has appointed Dr. Ralph A. Reis of Chicago the Editor of the new Journal and the following Board of Associate Editors: F. Bayard Carter, M.D., R. Gordon Douglas, M.D., Ludwig A. Emge, M.D., Arthur T. Hertig, M.D., S. Leon Israel, M.D., William F. Mengert, M.D., Norman F. Miller, M.D., and Herbert E. Schmitz, M.D.

Obstetrics and Gynecology will be produced in a 7½" x 10½" format of modern design and will be liberally illustrated. It will contain over 1400 pages of editorial material per year. Papers to be considered for publication should be addressed to the Editor, Dr. Ralph A. Reis, 104 South Michigan Avenue, Chicago 3, Illinois.

The charter subscription price will be twelve dollars per year in the U. S. A. and countries of the Pan-American Union (\$13.00 in Canada; \$14.00 elsewhere). Subscriptions and all business inquiries should be addressed to the publishers, Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, 49 East 33rd Street, New York 16, New York.

The American Surgeon,

Well-known surgical journal which has been published in Atlanta, Georgia, will be published by The Williams & Wilkins Company of Baltimore, Maryland effective with the January 1953 issue. This was the announcement made by the two organizations sponsoring The American Surgeon: the Southeastern Surgical Congress and the Southwestern Surgical Congress. The journal appears monthly, the editor is Dr. Thomas G. Orr of Kansas City, and the subscription price is \$10.00.

Egyptian Doctors on Tour.

A three-day visit to Indianapolis was completed August 19 by nineteen Egyptian physicians. Guests of Eli Lilly and Company, they inspected the Lilly plant and laboratories as well as the state and city medical facilities. All nineteen doctors are faculty members of Cairo medical schools. The trip was organized by Dr. Mohammed El Ayadi and was financed by the doctors themselves. Objectives of their thirty-day American tour, according to Dr. Ayadi, are to exchange professional and scientific ideas and to strengthen the bonds of Egyptian-United States friendship. Also, the group wants to pave the way between the two countries for exchange of medical students for advanced training. Egyptian students in the past usually have taken advanced work in England.

Spokesmen for the group pointed out that medical training in Egypt is being expanded rapidly in an effort to bring adequate medical care to all classes of Egyptians. Whereas five years ago only fifty doctors were graduated each year, four hundred are now graduated. Plans call for eight hundred graduates per year in five years. The group estimated that Egypt needs at least ten thousand more doctors.

The doctors had already inspected medical facilities in Washington, D.C., New York, and Pennsylvania. Their next stop after Indianapolis was the

Mayo Clinic, in Rochester, Minnesota, from which they went to drug manufacturing plants and hospitals in Michigan and upper New York State.

Clinical Session, A.M.A.

The sixth annual Clinical Session of the American Medical Association—meeting December 2-5 in Denver—will feature practical demonstrations on various phases of medicine of special educational value to the general practitioner. More than 60 scientific exhibits will provide the GP with a postgraduate course in such subjects as office anesthesia, cardiology, dermatology, endocrinology, gynecology, laboratory procedures, otolaryngology, pediatrics and proctology. Emphasis will be on diagnosis and treatment.

In addition to scientific papers presented by leading physicians from all over the United States, highlights of the meeting will include a large technical exhibit, surgical and clinical demonstrations on color television and motion pictures. All technical and scientific exhibits and scientific sessions will be held at Denver's recently-enlarged Municipal Auditorium.

Dr. Ennion S. Williams,

Richmond, has been named by the Virginia Tuberculosis Association as chairman of a committee to supervise a study of tuberculosis conditions in Virginia. Dr. Williams is medical director of the Life Insurance Company of Virginia.

VA Course in Psychiatry and Neurology.

The Veterans Administration is instituting a four-month intensive training course in psychiatry and neurology to fit the needs of physicians without such previous training who are assigned to duty in 22 predominantly psychiatric hospitals. Physicians who have been engaged in general practice may request this training upon applying for a position at one of these hospitals. Physicians will be employed at salaries commensurate with their training and experience (salary range: \$5,500 to \$11,800 per annum) and assigned to the course with travel and per diem for the four-month period.

Information and applications may be obtained from your nearest VA Hospital or Regional Office, or by writing to the Chief Medical Director, Veterans Administration Central Office, Washington 25, D. C.

Dr. Herbert W. Park,

Who for the past two years had been director of the medical service at Woodrow Wilson Rehabilitation Center at Fishersville, has accepted an appointment at the Medical College of Virginia as professor of physical medicine and rehabilitation and director of the Baruch Center of Physical Medicine. He succeeds Dr. Frances A. Hellebrandt who resigned last winter to accept a similar position at the University of Illinois.

News From State Health Department.

The State Health Department has announced the appointment of several new health officers to its staff. The newly organized Middlesex, Essex, King and Queen health district has been assigned to Dr. Carl A. Broadus.

Dr. Leonard O. Fears, Jr. will serve as health officer of the Carroll-Grayson district.

Dr. Paul J. Christenson has been assigned to the Alleghany-Botetourt district.

The Louisa-Fluvanna-Goochland district is under the direction of Dr. Robert R. Hogg.

Dr. F. J. Spencer has resigned his position of health officer of Giles-Montgomery-Radford health district, effective September 19. A replacement for Dr. Spencer will be announced in the near future.

Training for Air Force Medical Service.

A wide range of Air Force medical service training courses, heretofore open only to officers and airmen on active service, will be made available to reservists not in active service in the 15 northeastern states in the First Air Force region.

To qualify for these courses, reservists must have prerequisite experience in their specialized medical, dental, or veterinary field, as prescribed in the Air Force training prospectus. Courses will run from 6 to 42 weeks, and will be given at established Air Force and other medical training centers in the South, Southwest and Middle West. Reservists will receive full pay and allowances.

Reservists may forward applications to the Surgeon, First Air Force, Mitchel Air Force Base, N.Y., on forms obtainable from Air Force Volunteer Reserve Training Centers located throughout the First Air Force region.

Dr. M. Pierce Rucker

Has been re-appointed to the Richmond Board of

Health for a term of five years, effective September 1. He has been chairman of the Board for sometime.

Dr. Herbert W. Park, III,

Medical Director of the Woodrow Wilson Rehabilitation Center at Fishersville, has received a presidential citation for his work with the physically handicapped. The citation made August 21 and was one of seven awarded nationally.

Dr. Philip J. Morrison,

Who has for several years been connected with the Veterans Administration Hospital at Richmond, has been transferred to a similar hospital at Wilkes-Barre, Pennsylvania.

Urology Award.

The American Urological Association offers an annual award of \$1000.00 (first prize of \$500.00, second prize \$300.00 and third prize \$200.00) for essays on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to men in training to become urologists.

For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before January 15, 1953.

Information Reserve Officers!

Reserve credit points may be earned by medical service Reserve Officers for attendance at the daily sessions of the forthcoming 59th annual meeting of the Association of Military Surgeons the Department of Defense has announced. Eligible medical officers of the Army, Navy, and Air Force Reserves may participate, and the authorization covers physicians, dentists, veterinarians, nurses, Women's Medical Specialist and Medical Service Corps officers.

The various sessions of the meeting, which will be held at the Statler Hotel in Washington, D. C., November 17-19, under the presidency of Major General Harry G. Armstrong, Surgeon General of the Air Force, are recognized as being devoted to subjects having direct military application.

Point credits will be awarded on the basis of one point for each day of attendance, provided meetings attended total more than two hours. Registration for point credits will be handled by representatives of

Second Army, Navy Bureau of Medicine and Surgery, and First Air Force. Properly authenticated reports will be rendered to all Army Headquarters, Naval Districts and the Reserve Recording Unit, and Numbered Air Forces.

The American Dermatological Association

Is again offering a prize of three hundred dollars for the best essay submitted for original work, not previously published, relative to some fundamental aspect of dermatology or syphilology.

Manuscripts are to be submitted not later than January 1, 1953. The contest is open to scientists generally, not necessarily to physicians. Details regarding this essay contest may be obtained from Dr. Louis A. Brunsting, Secretary, American Dermatological Association, 102-110 Second Avenue, Southwest, Rochester, Minnesota.

The National Gastroenterological Association

Will hold its seventeenth annual convention and scientific sessions at the Hotel Statler in New York City on October 20, 21, 22. Included in the program will be a Symposium on Liver Diseases with Dr. Leandro M. Tocantins of Philadelphia, presenting "Hematological Aspects of Hepatic Disease"; Dr. John R. Neefe of Philadelphia, speaking on "Liver Biopsy"; Dr. S. S. Lichtman of New York, speaking on "The Present Status of Liver Function Tests", and Dr. Hans F. Smetana, Dr. Theodore C. Keller and Major I. N. Dubin of Washington, presenting "Histopathologic Criteria of Diseases of the Liver".

A feature of this session will be the "Symposium for the General Practitioner", at which Dr. Henry W. Cave of New York will speak on "Acute Lower Abdominal Emergencies"; Dr. Herman O. Mosenthal will speak on "Insulin and Diabetes". Dr. Linn J. Boyd of New York will present "Upper Abdominal Pain—Differential Diagnosis" and Dr. Samuel S. Berger of Cleveland will speak on "Bleeding from the Gastrointestinal Tract". Dr. Max P. Cowett of New York will speak on "Rectal Bleeding" and Dr. William Z. Fradkin of Brooklyn will present "Milestones in the Diagnosis and Treatment of Diarrheal Diseases".

There will also be a Symposium on "Bleeding Esophageal Varices and the Problems of Portal Hypertension". Dr. Samuel P. Harbison of Pitts-

burgh will be the moderator and Dr. Jere Lord, Dr. Mary Ann Payne, Dr. John Madden, all of New York and Dr. Edward M. Kent of Pittsburgh, will be the participants.

Another interesting panel discussion will be on "Gastrointestinal X-ray Methods, Diagnosis and Treatment". Dr. William W. Lermann of Pittsburgh will be the moderator and the participants include Dr. Lay Martin, Baltimore, Dr. Frederick W. Bancroft and Dr. Sidney Weintraub of New York.

Immediately following the Convention, on October 23, 24, 25, the Association will conduct its Fourth Annual Course in Postgraduate Gastroenterology at the Hotel Statler in New York, N. Y. The Course will again be under the personal direction of Drs. O. H. Wangenstein of Minneapolis and I. Snapper, New York.

Further information concerning the program and details of the Postgraduate Course may be obtained by writing to the Secretary, National Gastroenterological Association, 1819 Broadway, New York 23, N. Y.

"Psychological Problems of Cerebral Palsy"

Is a booklet just published by the National Society for Crippled Children and Adults. It includes the proceedings of the first symposium ever held to consider exclusively the psychological aspects of cerebral palsy and brings together the important papers of outstanding psychologists presented at the meeting. This booklet can be purchased at \$1.25 a copy from the Society at 11 South La Salle Street, Chicago 3, Illinois.

Important Messages

Appear in the advertisements in the *Monthly* each issue. New products are announced from time to time and much information given about others. Many ads tell of services rendered and commodities offered that may be of service in your practice or in your office. We aim to include only ethical advertising in the *Monthly*. Inquire about these products and ask for samples, stating that you saw their ad in the *Monthly*. These inquiries will help the advertiser as well as your journal.

Spring Congress in Ophthalmology and Otolaryngology.

The twenty-sixth annual Congress sponsored by

the Gill Memorial Eye, Ear and Throat Hospital of Roanoke will be held April 6-11, 1953, in that city.

Among the Guest Speakers will be:

Dr. Rudolph Aebli	-----	New York
Dr. Louis H. Bauer	-----	Hempstead, N. Y.
Dr. Milton L. Berliner	-----	New York
Dr. J. Lamar Callaway	-----	Durham, N. C.
Dr. John M. Converse	-----	New York
Dr. Glen G. Gibson	-----	Philadelphia
Dr. Jack Guyton	-----	Baltimore
Dr. Wallace E. Herrell	-----	Rochester, Minn.
Dr. Charles E. Iliff	-----	Baltimore
Dr. Frank D. Lathrop	-----	Boston
Dr. Francis Lederer	-----	Chicago
Dr. Arthur Linksz	-----	New York
Dr. Alexander S. McMillan	-----	Boston
Dr. Raymond E. Meek	-----	New York
Dr. Guy L. Odom	-----	Durham, N. C.
Dr. A. B. Reese	-----	New York
Dr. H. B. Stallard	-----	London, England
Dr. C. Ronald Stephen	-----	Durham, N. C.
Dr. J. Warrick Thomas	-----	Richmond
Dr. O. E. Van Alyea	-----	Chicago

Unique Series Depicting History of Pharmacy.

An exhibit of 14 original oil paintings, which depict dramatic highlights in the history of pharmacy up to about 1000 A.D., was a feature of the centennial convention of the American Pharmaceutical Association, recently held in Philadelphia. George A. Bender of Parke, Davis & Company, which commissioned the paintings, said they were part of a unique series to be completed by a 37-year-old Detroit artist, Robert A. Thom, in 1955. They are the first of their kind pertaining to pharmacy, he added.

The exhibit at the Bellevue-Stratford Hotel included six in the 1951 series, six in the 1952 series and an advance showing of two in the 1953 series. They are being finished at a rate of six a year and will cover events from "Before The Dawn Of History" up to the present time.

Study of Medical Impairments.

What is probably the largest actuarial study of physical impairments ever undertaken, is now under way in the life insurance companies, embracing 15

years' experience under nearly 400 classes of impairments and the tabulation of many millions of entries.

The study is being made by the Committee on Mortality of the Society of Actuaries, a professional organization made up of more than 1,000 actuaries in the United States and Canada, and is the first major statistical study of medical impairments since before World War II. The current study will cover practically all physical impairments except abnormal blood pressure and abnormal build.

Dr. D. L. Harrell, Jr.,

Superintendent of the Lynchburg State Colony for the past six years, has asked to be relieved of his duties there as of November 15 that he may enter private practice. Since his graduation from the Medical College of Virginia in 1930, he has spent nearly full time in some official capacity with one of the State hospitals.

Wanted:

A physician for contract practice.

A physician for industrial hospital.

If interested, write "Industrial practice", care Virginia Medical Monthly, 1105 W. Franklin Street, Richmond 20, Va. (*Adv.*)

Wanted—A Doctor.

Very badly needed. None within a radius of twenty miles, and can't get those when needed. Thickly settled community. Easily accessible by bus. A paying location. High school, church, post office, tourist camps. House available. Contact Miss Clara Smith, Ladysmith, Virginia. (*Adv.*)

Wanted—Medical Resident.

Beginning July 1, fully equipped 165-bed general hospital has opening for Medical Resident. Stipend \$150 a month and maintenance. Address "Medical Director", C. & O. Hospital, Huntington, West Virginia. (*Adv.*)

Private Practice.

In rural Virginia. Present physician is liable for military service. Contact Dr. W. I. Knight, Colonial Beach, Virginia. (*Adv.*)

OBITUARIES

Dr. John Bowler Fisher,

A general practitioner who has been located at Midlothian for nearly sixty years, died at his home there August 21. He was 84 years of age and a graduate in medicine from the Medical College of Virginia in 1892. He was a leader in medical affairs of the State and one of the founders of the State Board of Health, serving on its board for sixteen years. He served for forty-four years on the Board of Visitors of the Medical College of Virginia, was chairman of the Chesterfield Democratic Committee, served on the board of a banking institution, was the oldest member of and active in the Midlothian Lodge of Masons, had been a member of the Medical Society of Virginia for sixty years, and was also identified with other medical and civic organizations. He is survived by his second wife and five children.

Dr. Claiborne Turner Jones,

Prominent Petersburg physician, died at his home there on September 11, after a long illness. He was sixty-six years of age and a graduate of the Medical College of Virginia in 1906. Shortly thereafter, he located in Petersburg where he practiced for more than forty years. He was a member of the staff of the Petersburg Hospital, a member of his local and medical societies and active in church work. He is survived by his wife and five sons.

Dr. William White Falkener,

Retired physician of Newport News, died September 8 at a local hospital after having been in bad health for sometime. He was sixty years of age and a graduate in medicine from the University of Pennsylvania in 1915. He was engaged in the practice of pediatrics until retirement on account of his health. He had been a member of the Medical Society of Virginia since 1919. His wife and father survive him.

Dr. Gerald A. Ezekiel,

Retired physician of Richmond, died August 25 at a local hospital, having been in ill health for sometime. He was sixty-six years of age and studied

medicine at the Medical College of Virginia, from which he graduated in 1908. He joined the Medical Society of Virginia that Fall. He later took post-graduate work at Johns Hopkins University and saw service in World War I. He specialized in diseases of the chest and was for sometime a consultant at Pine Camp Hospital. He is survived by his wife and a son.

Dr. John Cary Sleet,

Retired physician of Norfolk, died September 19, after a long illness. He graduated from the University of Maryland in 1899 and located in Norfolk where he served as assistant health commissioner from 1905 to 1933 and then as commissioner until 1945 when he retired. He was a member of the American Public Health Association of his county and the State Medical societies, being a member of the Fifty Year group in the latter. Surviving him are his wife, a daughter and a sister.

Dr. Horace Faulkner Hoskins,

Saluda, died in a Richmond hospital, August 28. He was seventy-three years of age and a graduate of the Medical College of Virginia in 1908. He had practiced in Middlesex and adjoining counties for forty years prior to his retirement two years ago on account of ill health. He was at one time a member of the Medical Society of Virginia. His wife survives him.

Dr. W. Herman Whitmore,

Richmond, died September 15 in a local hospital. He was sixty-four years of age and a graduate in medicine from the Medical College of Virginia in 1921. He had practiced in this city for more than twenty-five years. His wife and two sons survive him.

Dr. Arthur T. Hart,

Well known physician of Union Level, died at his home there on August 20, after an extended illness. He was seventy-eight years of age and graduated from the Medical College of Virginia in 1896. He located in Mecklenburg County in 1900 and had since practiced there. Several children survive him.

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GUEST EDITORIAL

Newer Compounds in the Treatment of Hypertension

PRIMARY arterial hypertension, in contrast to the secondary form, is a vascular disorder of complex etiology. Neurogenic, endocrine, renal, vascular, hormonal, and possibly other mechanisms as yet unknown contribute components of varying importance in different individuals. This fact alone probably accounts for the infinite lists of drugs offered in therapy and dooms the physician's hope for any single substance as a real panacea. Of the wide spectrum of agents utilized over the past twenty years, most have been discarded for lack of general effectiveness. Sedatives, xanthines, slow acting nitrates and thiocyanates have been retained, but their usefulness is quite limited. Recently revived vasodepressor drugs representing mixtures of veratrum alkaloids, have narrow margins between therapeutic and toxic effects and therefore offer little utility in treatment. The pure alkaloid, protoveratrine, a potent vasodepressor and cardiodecelerator agent is at present unavailable commercially.

The introduction of compounds possessing antiadrenergic (adrenolytic and sympatholytic) action, piperoxan, dibenamine, regitine, dihydroergocornine, priscoline, and anticholinergic (total autonomic ganglion blocking) action, tetraethylammonium chloride, stimulated much investigative interest. However, each drug in turn proved impractical in primary hypertensive disease for disadvantages were evidenced by failure of depressor action, serious toxic side reactions, development of drug tolerance, brief duration of hypotensive response or necessity for parenteral injection. Currently undergoing clinical trial, dibenzyline (688-A) is an orally effective adrenergic blocking agent related to dibenamine. A report of eleven instances is favorable but the series is too small for practical judgment.

Recent observations in England of the pharmacologic properties of methonium compounds, principally hexamethonium and pentamethonium, revealed potent anticholinergic actions capable of blocking equally sympathetic and parasympathetic ganglia of the autonomic nervous system. Of these, hexamethonium was considered superior as a blocking agent. Enthusiastic clinical trial in hypertensive disease rapidly followed; at first hexamethonium bromide and iodide salts were administered parenterally, and somewhat later, when gastrointestinal absorption was demonstrated, the oral route was employed with bromide, chloride and bitartrate salts according to methonium content, i.e. 250 mgms. of hexamethonium bromide is equivalent to 350 mgms. of bitartrate salt. Bromide intoxication followed the oral ingestion of this salt, a matter at first unappreciated and several deaths were recorded. In general investigators abroad have been enthusiastic regarding these drugs, but this opinion is not unanimous.

The first methonium compound available in this country was hexamethonium bromide (bistrum) for parenteral use. The oral salt soon followed and hexamethonium chloride (methium) is now available commercially for prescription. These compounds

are potent hypotensive agents and potentially hazardous, even lethal to patients with hypertension complicated by encephalopathy, cardiac and renal insufficiency. Common side effects indicating absorption of active amounts of drug include weakness, blurring of vision, dryness of the mouth, constipation progressing to ileus, atony of the bladder and most important of all pronounced postural fall in blood pressure to production of syncope. Too rapid lowering of pressure has led to vascular thromboses in brain and heart and to renal insufficiency. Therefore it seems more prudent to initiate therapy under controlled hospital conditions where individual sensitivity response may be observed. In addition all patients deserve careful laboratory investigation of cardiac and renal status before intelligent treatment may properly be instituted.

Patients exhibiting marked elevation in pressure with associated vascular complications seem best suited for parenteral therapy, which we start at low levels of 1.0 to 2.0 mgms. every four hours subcutaneously, increasing the dose daily until effect is obtained; then maintenance doses are instituted and the interval reduced between doses if possible to six or eight hours. If tolerance develops, the dose is increased but rarely exceeds 50 mgms. per dose, or 300 mgms. per day. Excessive hypotension may be combated with phenylephrine (neosynephrine) hydrochloride and obstipation or ileus with neostigmine (prostigmine) or urecholine. The severity of the hypertensive disease frequently indicates the need of low sodium diet, a fortunate fact since the action of methonium compounds is enhanced by rigid sodium restriction.

Oral dosage is usually begun with 125 to 250 mgms. of hexamethonium chloride administered on an empty stomach at least one-half hour before breakfast, lunch and dinner and at bedtime in order to spread the drug effect over the longest period of waking hours and to insure more uniform absorption of the drug. Recumbent and standing blood pressures are determined before each dose is given. Increments in dosage are made daily watching cautiously for too rapid or cumulative drug effect. Maintenance doses are instituted at appropriate levels usually 2 to 4 grams rarely exceeding five grams per day. Oral absorption is variable in the same individual from day to day and postural hypotension with extreme weakness and syncope may occur with little warning. Impotency in males usually can be avoided by the omission of one or more doses at the noon or presupper period when intercourse is contemplated later. Sudden withdrawal of drug, particularly in severe hypertensive states must be avoided since a rapid downhill course and death has followed abrupt cessation of drug administration.

Our own experiences utilizing various methonium compounds in over a hundred cases justify a few comments regarding this form of treatment. Hexamethonium salts are potent and useful tools in the management of hypertensive disease, but are not curative. Ganglionic blocking actions are incomplete. Potential dangers attend their use and caution is observed even after extended experience. Vascular accidents both cerebral and cardiac, during periods of postural hypotension have been observed; no instance of renal insufficiency or of death secondary to drug therapy has been encountered in our series. Lowering of pressure in the supine position can be achieved in most patients. Postural hypotension occurs regularly and represents a constant hazard; wide fluctuations between recumbent hypertension and postural hypotension occasionally demand discontinuance of treatment or use of smaller doses. Effects upon systolic pressure exceed those upon diastolic levels. Normal blood pressures are attained infrequently; compromise is therefore made in the direction of partial rather than complete control of pressure in most patients. The eventual effect of prolonged therapy on prognosis is still uncertain. Progress of vascular disease appears forestalled in some,

but not in others, despite partial blood pressure control. The most suitable candidates appear to be the younger group of patients with progressive hypertension unresponsive to good medical management. These are the very patients presenting conventional indications for sympathectomy; the drug in effect substitutes an incomplete "chemical" sympathectomy. A priori, patients who have had sympathectomies previously performed are particularly sensitive to drug action of the blocking type. Older patients with vascular complications of hypertensive disease respond less well to drug administration; the hazards of thromboses, principally cerebral and cardiac, and the precipitation of renal insufficiency are real with too rapid and excessive blood pressure reduction when treatment is first begun or when wide fluctuations in pressure occur.

An additional compound now available, 1-hydrazinophthalazine (Apresoline), has received investigative consideration recently. This drug, weakly antiadrenergic, yet complex in action, is regarded by some as truly antihypertensive in action since it blocks the action of several pressor substances, including hypertension and pherentasin, and increases renal blood flow while lowering blood pressure. This drug employed alone has proved of some but little value because therapeutic amounts incur unpleasant side reactions (headache, tachycardia, nausea, and edema) in many patients, reduction in pressure is not great and tolerance tends to develop on prolonged administration. The concept of attacking the hypertensive problem by utilizing the different actions of hexamethonium and 1-hydrazinophthalazine in combination seems entirely acceptable. This addition however provides substantially greater danger. In the hands of one observer remarkable results have been achieved but deaths have occurred which warn against indiscriminate use of these powerful drugs. This investigator employs both drugs at four-hour intervals, usually beginning with hexamethonium in ascending doses to which 1-hydrazinophthalazine is added as pressure falls or fluctuates widely. Dosage is adjusted and regulated by levels of pressure recorded before each dose. Patients or relatives are taught to record blood pressures at home. This method, reportedly effective in blood pressure control in a large series of patients, has cumbersome disadvantages. Another observer and his colleagues utilize parenteral injections of hexamethonium at twelve-hour intervals to prevent development of tolerance and orally administer 1-hydrazinophthalazine midway between these two doses. A small series of nine cases is reported yet enthusiasm for the method is expressed.

Our own experiences using combined therapy are too meager to permit definite conclusions regarding efficacy of methods at this time. In each instance 1-hydrazinophthalazine has been added only after poor control was apparent with hexamethonium alone administered for at least several weeks or months. The problem offers both challenge and promise and demands continued investigation of large groups of hypertensive individuals.

Knowledge of the complex mechanisms underlying primary hypertension in man is slowly yet steadily evolving. The therapeutic horizon is brightening with the acquisition of new and effective drugs to supplement, but not replace well-established medical regimens. It no longer seems premature to hope that eventual control of hypertensive vascular disease may be accomplished through purely medical measures.

EDWARD S. ORGAIN, M.D.

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EDITOR'S NOTE.—Dr. Orgain is Professor of Medicine at Duke University School of Medicine, and Director of the Cardiovascular Service, Duke Hospital, Durham, North Carolina.

THE RELATIONSHIP OF NAVY MEDICINE TO OPHTHALMOLOGY AND OTOLARYNGOLOGY*

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Surgeon General of the Navy,
Washington, D. C.

In their normal state the most amazing, and second in importance to no other of our special sense organs certainly, are our eyes and ears. The acoustic part of the ear is pretty much in an isolationist class insofar as its becoming involved in systemic conditions is concerned. I once studied anatomy under a professor who professed to be able to estimate the length of the intestinal tract of a given race of people by examining their ears externally, that is, their auricles. He was something of an anthropologist. I don't know how accurate his estimations were nor of what value they were irrespective of their accuracy. It is interesting to note, however, that, in contrast to the ear, the eye does manifest telltale evidence of numerous and diverse systemic ailments. It is possible to look into one's eye and determine a lot besides its color and the honorableness of the individual's intentions. An eye examination, as we all know, may reveal evidence that is pathognomonic of a number of constitutional ailments to which the human constitution is subject.

It will be the principal purpose of this presentation, albeit, to consider more strictly impairment or defectiveness in the primary function of these special sense organs, with particular reference to such departure from normal as is related to physical trauma. Definitive comment will, in due course, be made upon the rehabilitative measures that are instituted in these categories of cases by the Medical Departments of the Armed Services.

In any event, before proceeding to discuss the abnormal with reference to eyes and ears I should like first, by way of establishing a point of departure so to speak, to refer briefly to the visual and auditory standards used by the Navy. The Navy's requirements with regard to hearing and vision vary somewhat, depending upon the category of duty it is intended that the individual perform, such, for example, as submarine and aviation duty, as compared with straight line or deck duty. These requirements

vary for officers and enlisted personnel. They are not the same for men and women. Whether an individual seeks to become a member of the Regular Service or of a Reserve Component makes a difference, as does the matter of whether the examinee is being examined for original admission or to determine his or her fitness for remaining or shipping over in the service. These requirements vary with the several branches of the Armed Services and with respect to corps within a given branch. I hardly need remind this audience surely that the Navy's Medical Department provides medical coverage and care for the U.S. Marine Corps. The visual requirements for entry into the Naval Academy or to training under the Holloway Plan and those for entry into the Marine Corps are the highest of any. I had thought I might set forth in tabular form the visual and auditory standards of the Navy and Marine Corps but find the story to be too complicated and one subject to too complex an arrangement of determinants to permit its being set forth in a succinct fashion. I shall therefore launch forthrightly into the main course of my bill of fare.

OPHTHALMOLOGY

One of the prime objectives of military medicine is the medical and surgical care of the fighting man. Although comprising only a small percentage of all injuries, eye, ear, nose and throat injuries present an interesting aspect of military medicine. Treatment of war wounds varies somewhat from that in civilian life because the tissues are often considerably more traumatized. Mine, grenade, and mortar fire cause particularly widespread damage.

During World War II there were 640 recorded cases of unilateral blindness among Navy and Marine Corps personnel, of which 322 were caused by combat, 143 as a result of noncombat trauma, and 126 due to medical reasons. Approximately two-fifths were due to noncombat causes. Many of the medical ophthalmological problems, such as iritis, corneal ulcers, and refractive errors, often cause more loss of manpower in combat than do combat wounds. In one base hospital they were ten times greater

*An address delivered before the Twenty-Fifth Annual Spring Congress in Ophthalmology and Otolaryngology, Gill Memorial Eye, Ear and Throat Hospital, Roanoke, Virginia, April 9, 1952.

during a one-year period. It is interesting to speculate upon the results of civilian bombing, should this ever occur. On the basis of information from the bombing of London, nearly three per cent of all injuries were eye injuries and, in providing for beds, ten per cent were for patients in whom eye injuries constituted the paramount disability. Based upon such past experience it is anticipated that blindness may be expected at the rate of about one per thousand casualties.

Korean Campaign. During the Korean Campaign most of the eye injuries occurring from land warfare have been evacuated to Army hospitals, the principal one being the Tokyo Army Hospital, which is the eye center for all United Nations troops. I was there last summer. Twelve per cent of the admissions to this base hospital have been eye injuries. While the total number of eye injuries is not available, by August, 1951, there had been 193 cases with bilateral eye wounds. Of these, twelve had vision less than 20/400 in the better eye.

The Lancaster hand magnet was found most useful for the removal of magnetic intraocular foreign bodies. For foreign bodies in the vitreous, a meridional incision through the pars planum gave the best results. In approaching foreign bodies imbedded in the retina, scleral incision directly over the foreign body and surgical diathermy around the opening was the method of approach. The Berman locator was found to be of great value in locating magnetic foreign bodies during operation. Copper and light metal alloys gave no response to the magnet or locator. The giant magnet was reported to have been used only three times for very small or slightly magnetic foreign bodies in the vitreous to bring them to the periphery where they could be removed by a hand magnet. The Sweet localization method seemed to give better results than the Pfeiffer method, but was inaccurate in partially collapsed eyes. Foreign bodies removed in the first 24 hours seemed to do better than those removed later. It should be stressed that accurate localization is much more important than speed of removal. Twenty-four cases were exposed for removal of intraocular foreign bodies which were found to be located extraocularly in muscles or sclera. The Berman locator was valuable in locating such bodies. Out of 157 orbital foreign bodies only 34 were removed.

Some form of eye injury existed in about 50% of all head injuries. Penetrating wounds of the eye were not uncommon in this series. Anterior wounds of the sclera were sutured with 3-0 catgut; posterior wounds of the sclera were usually not closed surgically as it was found that they closed spontaneously. Surgical diathermy along the margins of the wound to prevent retinal detachment was used with gratifying results. Corneal wounds were sutured with 6-0 silk if the wound gaped. Smaller corneal wounds were covered with a Kuhnt conjunctival flap. In six cases of wounds of the puncta a wire was passed through the inferior punctum, into the canaliculus on both sides of the wound, and into the sac and left in place for ten days. Patent canaliculi were obtained in four of the cases. Canaliculus needles may also be used. It was found that retinal detachments and disinsertions due to trauma usually occurred in the inferior quadrant. This, I'm told, it has been reasoned, may have been due to reflex elevation of the eyes when injury occurred. Subluxated lenses were not removed and no cases of glaucoma were noted. No cases of sympathetic ophthalmia have occurred. The blink reflex usually spares the eyes from burns due to explosion. Chemical burns occurred most often from battery acid, lime and phosphorus flares. Five per cent hydrosulphosol and 30 per cent sodium sulfacetamide were most commonly used in the treatment of these burns.

Since few front-line surgeons have had extensive training in ophthalmology, the following first aid measures for penetrating eye injuries seem indicated, from Korean experiences:

1. Evacuate as stretcher cases, with both eyes patched and within the first 24 hours, if at all possible.
2. Use prophylactic antibiotic therapy.
3. Employ atropinization. This is probably indicated except in cases of hyphemia and perhaps in cases of lens perforation.

Rehabilitation—Eye. In ancient days blinded veterans became an unwelcome charge on local communities. Following World War I, liberal pensions were granted but no training was given.

After World War II both the Army and Navy established blind rehabilitation centers. The Navy's center was located at the Naval Hospital, Philadel-

phia, where 157 blind were admitted during the war years. All but 58 of these were due to trauma. Of the non-traumatic cases nearly half were due to methyl alcohol, a most regrettable and preventable cause.

Instead of duplicating facilities for rehabilitation during the present Korean action, the blind of all services are being transferred to the Blind Training Center, Hines, Illinois, under the auspices of the Veterans Administration. This transfer is effected as soon as the diagnosis of permanent blindness is established by a physical examination board. Experiences during the late war emphasized the importance of early rehabilitative measures in order that the typical phases of depression, and overcompensation might not occur, but that adjustment under the guidance of personnel trained in these problems might be realized. It is a tribute to the character of our blinded veterans and to the training they received that nearly every one is an acceptable member of his community and in many instances a leader in it.

Industrial. During the war years a great expansion occurred in the Navy industrial facilities. A visual safety program was enlarged and extended. The program, in the main, consisted of improvement in work efficiency and decrease in fatigue by improved illumination, the judicious use of color, the reduction of glare, and by fitting the intensity of lighting to the requirements of work. In addition, an eye-protection program was instituted. This program included the examination and, if indicated, refraction of all persons in eye hazardous occupations. Protective goggles are furnished in which is incorporated any necessary refractive correction. All other employees not in eye hazardous occupations are given a preliminary visual examination and, when defective vision is found, they are advised to contact their private physicians.

Training Program. There are five naval hospitals approved by the American College of Surgeons and the AMA for residency training in ophthalmology and otolaryngology. This, of course, means that the staff, the number of clinic and in-patients, the amount of surgery, and the teaching program in these five hospitals meets the standard requirements for residency training. One or more civilian consultants in the local community are on the staff of such naval

hospitals. On the other hand, a number of naval medical officers hold university teaching appointments. A certain number of naval medical officers are given civilian residencies, or basic courses in graduate schools, for from one to three years. During the present emergency only personnel who have completed a tour of duty in the Korean theatre are eligible for civilian training. Presently 19 members of the Medical Department of the Navy are undergoing postgraduate training in ophthalmology or otolaryngology.

Certified Ophthalmologists. As of the 1st of April, this year, there were 25 board certified ophthalmologists in the Medical Corps of the Navy, all members of the Regular Service.

Certified Otolaryngologists. As of the 1st of April this year there were a total of 29 board certified otolaryngologists in the Medical Corps of the Navy. Of this number 28 were members of the Regular Service and one a member of the Reserve.

Navy medicine probably does not differ in essence from civilian medicine. Our problems and methods of handling them are basically the same: Some fields, such as traumatic surgery, perhaps are given greater emphasis than in civilian life and in other instances special opportunities for study and the development of efficient routines are made possible by the availability of large numbers of persons in a comparatively young age group. Anyway, I should like now to leave the eye and turn to a consideration of the ear.

OTOLARYNGOLOGY

Deafness has been a problem in the Navy, as it has been in civilian life. There were over 90,000 service-connected cases of disability due to a hearing loss of one degree or another sustained in the Armed Forces as of a year and a half ago. In an analysis of deafness cases in the late war, 40 per cent were considered to have had hearing impairments prior to entry into the service. This figure of 40 per cent was based largely on the patient's history and the findings on induction examinations. Ninety-three per cent of these were adjudged by the Veterans Administration to have had aggravation during service. This survey was based largely upon the history of the patient, since the induction examinations were not 100 per cent reliable because of the manner in which tests were performed. Unfortunate-

ly, unmonitored voice tests were usually the only tests used in mass induction examinations and were, moreover, often hastily performed by untrained technicians. The need is recognized by the Bureau of Medicine and Surgery for an accurate auditory record on entry into the service to determine what effect, if any, various types of naval duty have on hearing. The feasibility of group audiometry for all personnel entering the Navy is now being considered.

Etiology. Of the 60 per cent of deafness considered to have been primarily incurred in the service 26 per cent was ascribed to heavy firing, 15 per cent was due to nerve deafness, 10 per cent was due to otosclerosis, four per cent due to chronic suppuration, and the remaining five per cent to miscellaneous causes, such as meningitis, etc. The figure of 26 per cent due to acoustic trauma is probably high, for during wartime a large segment of the naval service is exposed to heavy firing either in training or actual warfare. In this analysis the patient's history was either the main or only criterion used to establish the diagnosis of deafness due to heavy firing.

I should like at this point to stray afield for a moment to comment briefly upon an observation I have made with respect to otitis during my several tours of sea duty. As all medical officers with any appreciable amount of sea duty must have observed, a sharp upsurge of external and middle ear involvements is practically certain to occur among the crew of a ship when that ship enters an area, generally in the tropics, where swimming over the side is permitted. With this outcropping of ear conditions the question of the water's being contaminated always comes up. Well, regardless of the purity or impurity of the water, it has been my observation, upon questioning a person who comes down to the sick bay with a running ear, following his having dived over the side or having been swimming in any manner, to find that the individual has, almost without exception, had previous trouble with his ear, and what has happened has simply been a re-awakening of a "sleeping dog" so to speak. I had never seen an original ear involvement in the Navy directly attributable to swimming until my own son, who was then about ten years of age, developed an acute ear from swimming in a pool, and that I am sure was due to the fact that somebody had given him a face mask, following which he spent about

ninety per cent of his time down at the bottom of the pool.

General or Side Effects of Deafness. The manner in which a patient reacts as a whole to a defect such as deafness may vary greatly. Recently deafened individuals often try to minimize or hide their defect. In order to maintain a conversation, they make strenuous listening efforts and tend to fill in gaps not heard by guessing or by pleasant affability. This sometimes leads to embarrassing situations and at best is very fatiguing and leads to nervousness and instability.

The resistance to recognizing and accepting the handicap of deafness is illustrated by the case of the hard of hearing senior officer who brought in his aide, a-i-d-e that is, for laryngeal examination because he was unable to understand him.

Another type of reaction more often seen in cases of long-standing deafness is a withdrawal of interest and attention. Because trying to maintain a conversation is so unsatisfactory and fatiguing, these individuals become preoccupied with their own thoughts and often withdraw from, or avoid social contacts. They may not even hear their names called in a loud voice when not expecting a communication, but when their attention has been obtained, or their interest aroused, they may be able to hear at a much lower conversational level. This type of reaction is responsible for the old saying, "He's deaf all right, but he always manages to hear what he shouldn't."

Psychogenic Deafness. Persons with minimal or no hearing defects may develop psychogenic deafness as a result of the strains and frustrations of modern life. The Navy is not unique in producing such situations. The deafness, while present temporarily, solves an intolerable situation. The term "intolerable" is relative. To others it may be only monotonous or unpleasant. These people often develop dramatic cures when the situation which causes the deafness is cleared up or when they learn to live with it. Many of the newspaper reports about unusual or dramatic cures are probably of this type. Much is being said and written these days about psychosomatic medicine. Dunbar has defined the psyche and soma as representing two angles of observation. Our understanding of disease rests on pictures taken from these two angles and viewed

stereoscopically. We are all alert to the possibility of emotion causal factors in nervous indigestion, tension headaches, etc., but many otologists ignore the possibility of emotional factors in deafness. During the war, especially at certain Army rehabilitation centers, this factor was not only recognized but may even have been over-emphasized. In the Russian army, during the late war, hysterical deafness was the most common war neurosis. It is not known whether the sounds these patients needed to blot out were those of battle or the propaganda of the political commissars. Otologists are primarily concerned with symptoms relative to the ear and ordinarily do not probe into emotional backgrounds. Such factors should be considered, however, whenever the sum of signs and symptoms do not add up. If only organic pathology is present, a comparison of repeated and various tests results in no gross inconsistency. The only consistent finding in functional deafness is inconsistency. It is easy to fall into the error of concluding that all such discrepancies are due to malingering.

Malingering. There is nothing worse for the reputation of either the accused or the physician than a false imputation of simulation. Contrary to the usual impression, malingering is not common in the Armed Services. A malingerer may simulate deafness on the occasion of a single examination, for example, to escape service. To continue a pretense over long periods requires great application and much restricted activity. Such individuals probably have a personality disorder. Persons of normal personality structure usually pick a symptom of short duration, as for example, when a headache is claimed to avoid a dull social engagement.

Hysteria. I would like to emphasize that the signs of malingering and hysteria differ in no essential way. Even the motives in both conditions may be the same. Common motives are escape, desire for sympathy, and financial gain. The essence of the difference is insight. The malingerer knows full well that a symptom such as deafness is false; the hysteric is firmly convinced that he cannot hear and acts as a deafened individual even when free from observation. In malingering, inconsistencies are usually inconstant, whereas in hysteria they are characteristically constant and constantly inconsistent. The essence of the findings in hysteria is in-

hibition or negation. Thus, in unilateral deafness, for example, whenever a sound is more intense in the affected ear, he denies hearing. This is true even when the sound is so loud that he obviously hears it in the good ear. This makes the Stenger test uniformly successful in such cases. Otologists are seldom equipped to supervise the treatment of the functionally deaf. This is a problem for the psychiatrist. The otologist, however, should differentiate emotional from organic deafness and the more difficult cases in which both elements are present. Whenever emotional factors complicate the picture of organic deafness we speak of the emotional factor as a "functional overlay." In aural rehabilitation, we must guard against treating the emotionally deaf with hearing aids.

Rehabilitation—Hearing. From 1944 through 1946 over 3,000 Navy and Marine Corps personnel received aural rehabilitation at the Naval Hospital in Philadelphia and were discharged because of deafness. This figure does not include those discharged for ear diseases not causing a deafness handicap. To date, over 10,000 hard of hearing cases have been processed and over 5,000 hearing aids fitted at that center. The peak load in any one month was in July, 1945, when over 700 were being processed at one time. During the post-war years fewer than 100 cases of deafness per year have been discharged from the Navy and Marine Corps. During the period of the present emergency this figure will probably rise. The Navy pioneered in producing the modern concept of an aural rehabilitation center. During World War II it assembled an outstanding staff of non-medical hearing and speech specialists such as Drs. Koeppe-Baker, William Hardy, Eva Thompson and Miriam Pauls, and set up a program under the direction of an eminent otologist, Captain Francis Lederer. Special physical equipment was provided by the Central Institute for the Deaf and housed in a special sound-treated building. This program attained national and international recognition and has continued to function in post-war years. Many civilian centers, both in this country and abroad, are now being established along similar lines.

The principles established in the handling of deafened individuals may be enumerated as follows:

1. Accurate and repeated testing, including the

use of accurately monitored speech to establish the diagnosis and degree of hearing loss.

2. Psychological reorientation and acceptance of uncorrectible hearing defects.

3. Fitting of a suitable hearing aid. This includes instruction in proper care and wearing of the aid.

4. Auditory training to develop tolerance of amplified sound in cases of nerve deafness.

5. Speech reading to supplement hearing by aid in well-marked cases of hearing loss.

6. Speech correction, if present, in cases of long-standing deafness.

7. Vocational guidance and training.

The last is carried out usually by the Veterans Administration after discharge in the case of service personnel. The psychology of the patient is most important in both diagnosis and treatment. A hard-of-hearing patient once described his deafness as "always being on the wrong side of a plate glass window." This is probably a good description of the sense of isolation felt by the deafened and accounts for the moods of insecurity and suspicion which are so commonly encountered. Unlike the blind and crippled, the hard-of-hearing person, as you are all well aware of course, has no outward signs of disability and strangers are apt to confuse imperfect hearing with imperfect understanding. Experiences obtained in the aural rehabilitation program have highlighted the importance of treating the individual rather than his symptom, namely, deafness.

The first lesson of aural rehabilitation is acceptance of the fact that deafness is permanent and may even be slowly progressive. It is important that the patient stop looking for the miracle cure. On the other hand, he must be told that even though his deafness be progressive he will always be able to compensate for it with a hearing aid, and that he will do so simply by turning up the volume control of his instrument or procure an instrument of greater power. Herbert Spencer, who lived in a boarding house, would seat himself in the common living room only after carefully adjusting a pair of impenetrable ear muffs to his perfectly normal ears. The ability to hear is not always an asset and those afflicted with deafness should learn to appreciate the

detachment which it makes easy. Thomas Edison believed that had he possessed normal hearing, the very sounds which he did so much to record, preserve and disseminate through his talking machine, would have so distracted him as to make impossible the mental concentration essential to his success in such an endeavor. What can't be cured can often be enjoyed. Cases who have had successful fenestration operations sometimes wistfully remark that they often wish that they could shut off their hearing as they did their aids before operation.

The second lesson is that deafness is not a shameful thing to be concealed whenever possible, or that social contacts should be restricted. We are not completely in accord with the tendency to hide the newer hearing aids. If the individual is so sensitive that he cannot bear to have his associates know that he has a hearing defect, we do not consider that he has completely adapted.

The third and most important lesson is that by combining the faculties of seeing and aided hearing, one's ability to communicate can be restored and thus can one, who by wearing a hearing aid becomes a successful person, be in the same social category as the successful person who wears glasses. In this way, a disability is reduced to a handicap at most, and a handicap is frequently a stimulus.

Auditory training is a relatively new concept. The failure of many individuals to adapt themselves to a hearing aid in the past was largely due to intolerance of amplified sound. A patient with a pure conductive type hearing defect is seldom a problem to fit with a hearing aid, because as soon as sound penetrates the conductive barrier, it is appreciated as a low threshold sound similarly as in the normal.

In well-marked nerve deafness, on the other hand, the phenomenon of recruitment causes acute distress because, as soon as sound becomes audible, it is appreciated as a loud sound. We are all familiar with the common sequence of "What did you say?" and then when the voice is raised moderately, "Well, you needn't shout at me." The hearing aid not only amplifies the sounds the patient wants to hear, but all extraneous background noises are similarly amplified out of their usual proportion. The purpose of auditory training is to accustom the patient not only to tolerate amplified sound, but to teach him to pick out what he wishes to hear from the

din of extraneous noises, and to develop specific listening habits in which speech is literally pulled out of a *melée* of noises. To develop this faculty, normally amplified sounds are exaggerated by deliberately adding white noise or records of restaurant, street, or other crowd noises during the training period.

Hearing aids may be classified as minimum gain, moderate gain and maximum gain instruments. Obviously, if a patient has a severe hearing loss he should not even consider a minimum gain instrument. We in the Navy usually limit the patient's choice as far as power is concerned. The patient's further choice will largely be influenced by tonal quality. Some prefer crispness in an aid while others prefer mellowness and many simply prefer a certain aid over another for no reason that they can explain. Ease of operation or upkeep, ruggedness, compactness, color, size, etc., are all factors. Although certain aids have selective amplification or tilt, amplifying higher frequencies more than lower, the degree of tilt required, if any, is, in the experience of the Navy's otologists, seldom predictable from the audiogram. It has not been found feasible or necessary to fit aids on the theory of selective amplification alone. The combination of a defective ear and distorted sound does not add up to normal hearing. In comparing aids it is essential that the same well-fitting individually-molded earpiece be used, because comparison of performance is otherwise impossible. A poorly fitted earpiece may not only decrease efficiency by as much as 30 decibels, but may also produce an unpleasant feed-back squeal. There is no evidence that hearing aids either improve or impair basic hearing.

In cases of marked deafness of the mixed or nerve type, hearing aids do not usually give sufficient amplification of the higher frequencies. For complete intelligibility, lip reading must be used to supplement the aid. Since only about 30 per cent of English speech is visible from the lips, speech reading alone is an incomplete solution to the problem of communication. Since most vowels are well amplified and most consonants can be seen on the lips, the combination of speech reading and amplified hearing is the best answer in such cases.

Speech correction is practically never a problem in the recently deafened. If the patient hears his

own voice with the help of his aid, he will usually modulate his voice properly without need for speech training. Wearing an aid as soon as difficulty in usual conversational situations is experienced is the best prophylaxis against the development of speech defects. Cases with profound or long-standing hearing defects usually need the help of a speech therapist to correct the typical "head in a barrel" voice.

I now come to make my final sortie into the field, and this time it is simply to observe that speech—talking—is a stunt. In other words, the vocal cords were, in the opinion of the anatomists and physiologists, I believe, not primarily intended as voice producing devices. We have simply come to use them for that purpose. In any event, it has been observed that the human being is the only animal whose means of communication has become so complicated that he frequently conveys an impression far at variance to his original intention.

RESEARCH

Now, with a word about research, it is my intention to fold my tent like the Arab and as silently steal away.

I simply want to say that medical endeavor in any field, it is my conviction, will remain alive and progressive commensurately with the degree to which it engages in research, and it is with genuine gratification that I can state that the Navy has a considerable research program in ophthalmology and otolaryngology, both in service establishments and in civilian institutions. Since much of this research is in the basic sciences and clinical problems of general interest, advances in these fields will enrich our knowledge and find application in many clinical and nonmilitary fields. The Navy is also represented in the Sensory Disease Study Section of the U.S. Public Health Service dealing with research grants throughout the country.

With present unmonitored conversational and whispered voice testing, an unknown number of subclinical and clinical cases of deafness are admitted with notations of normal hearing. When separated from the service, and often after only short periods, these men are eligible for pensions based on a service-connected disability. The application of audiometric or monitored speech testing awaits the development of an accurate, rugged, instrument suitable for group testing to act as a coarse

filter and the use of complete individual tests on those cases which fail the group test. The development of such an apparatus should have wide application to schools, factories, etc. Such a project is now being field tested at Camp Lejeune, North Carolina.

The Acoustic Laboratory of the U.S. Naval School of Aviation Medicine is experimenting with an Audio-Signal Delaying Unit as part of the investiga-

tions into the effects of acoustic environment upon speech. By recording the speaker's voice on audio tape and playing the voice back to the speaker's earphones a fraction of a second later, some startling effects are observed. The speaker, I'm told, becomes confused and stutters. While it has obvious practical use in discovering a malingerer there may be more important clinical applications.

New Books.

The Tompkins-McCaw Library of the Medical College of Virginia announces the following as some of their newer books which may be had under usual library rules:

Armstrong, Harry G.—Principles and practice of aviation medicine. 3d ed. 1952.

Beckman, Harry—Pharmacology in clinical practice. 1952.

Buchwald, E.—Physical rehabilitation for daily living. 1952.

Collins, V. J.—Principles and practice of anesthesiology. 1952.

Dieckman, William J.—The toxemias of pregnancy. 2d ed. 1952.

Elman, Robert—Surgical care: a practical physiological guide. 1951.

Faddis, M. O., & Hayman, H. M.—Care of the medical patient. 1st ed. 1952.

Kessler, Henry H.—Principles and practice of rehabilitation. 1950.

Schuler, Mowitz & Mayer—Medical public relations. 1952.

Sloan-Kettering Institute—Clinical problems in cancer research. 1952.

Von Oettingen, W. F.—Poisoning; a guide for the clinician. 1952.

Werner, August—Research in endocrinology. 1952.

First Aid Guide Now Available.

Useful tips on how to handle common first aid emergencies have been compiled in a pocket-sized manual by the AMA's Council on Industrial Health and the Bureau of Health Education. The booklet outlines adequate first aid instructions for everyday illnesses and injuries in a simple way. It is designed to guide those who have not received formal first aid training as well as to refresh the memories of the experienced. A list of suggested items for a first aid kit also is included.

Single copies are available without charge through either of these AMA departments. Quantity prices will be supplied on request by the Order Department.

A COMPARATIVE STUDY OF SUBTOTAL GASTRECTOMY WITH AND WITHOUT VAGOTOMY

J. WILL TANKARD, M.D.,
Newport News, Va.

This presentation must be considered as a preliminary report on only a few cases, for the ultimate results of any ulcer therapy must be based on follow-up studies extending over a period of many years.

HISTORY AND EVOLUTION OF SURGICAL TREATMENT

Since Billroth, who can be considered the father of gastric surgery, performed the first successful partial gastrectomy in 1881, 70 years ago, there have been many, many thousands done. In every decade since then the mortality incident to its performance has diminished. It is so low now that the benefits achieved when used on this chronically and acutely ill group of sufferers (a life long recurrent disease) far outweighs the one out of 50 or less chance they have of succumbing to the operation.¹ As evidence of this current low operative mortality I will cite the following gathered at random from the literature: Lewisohn² in 1945 pointed out that in experienced hands the mortality for gastric resection is only about 2%. In 1944 at the Mayo Clinic a mortality of 1.1% was reported on 368 partial gastrectomies. Bartels and Dulin in 1947 reported 1.6% in 121 successive partial gastrectomies. The Lahey Clinic did 1079 resections for duodenal ulcer in the period of 1937 to 1948 with only 26 deaths or 2.4% mortality. Glenn¹ showed 1.9% in 309 gastric resections. The natural history of the disease itself would give 2.03% mortality without definitive surgical treatment (Moore).³ The operation was first done as a gastroduodenostomy (Billroth I) and then in 1885 the gastrojejunostomy or Billroth II operation was introduced. Local excision was used without success and then the procedure evolved through pyloroplasty, gastroenterostomy, antrectomy and finally extensive gastric resection. The question in our minds today is whether to go one step further and combine a vagotomy with the resection as a routine procedure; or just which cases are best to use the combination operation on. The most common type of partial gastrectomy used today, the Hofmeister modification of the Polya, is really just an

improvement on the Billroth II. The modified Billroth I in conjunction with a vagotomy or alone is used to-day by some as an operation of choice for duodenal ulcer. So we see that all of our present day gastric surgery with the exception of vagotomy is really descended from Billroth.

Pavlov first demonstrated in 1910 that the cephalic phase of gastric secretion is abolished by vagotomy. In 1943 Dragstedt reintroduced and reawakened interest in vagotomy as a treatment for peptic ulcer. He and his co-workers found that vagotomy alone was not adequate and they now recommend a gastroenterostomy combined with vagotomy for duodenal ulcer; and partial resection for gastric ulcer.

Other surgeons such as Colp,⁴ Walters,⁵ Marshall, Hinton,⁶ G. G. Miller, Francis Moore,³ Sanders, Fallis,⁷ Glenn,¹ Berg, and Gray believe that partial gastrectomy is the operation of choice for duodenal ulcer. For those characterized as the very high free acid group with painless hemorrhage many surgeons such as Colp,⁴ Sanders,⁸ Hinton, Walters,⁵ Lahey, F. F. Hatch,⁹ Fallis and Barron,⁷ Kleitsch,¹⁰ believe that a subtotal gastrectomy plus a vagotomy is the operation of choice. The combination of subtotal gastrectomy and infradiaphragmatic vagotomy for duodenal ulcer is not a new idea. In 1929 Klein published the results of left anterior vagotomy and gastric resection in 8 cases of duodenal ulcer with unusually high preoperative acid figures.

ETIOLOGY

1. Acid factor—It is well known that high acidity and peptic ulcer are associated more frequently than would occur merely by chance. The experimental production of ulcers by making hyperacidity and the cure of ulcers by reducing hyperacidity emphasize this factor. However, ulcer may occur in the absence of hyperacidity. Against this theory of acid causing ulcer, however, is the large number of people with hyperacidity with no ulcer. Some have even postulated that the ulcer came first and the high acidity secondarily,¹¹ stating that it is a characteristic of mucous membrane to secrete more when irritated, and citing as examples the mouth in oral ulcer and

*Read in part October 9, 1951 at the annual meeting of The Medical Society of Virginia at the Cavalier Hotel, Virginia Beach.

the rectal mucosa in fissures, etc. Supporting this theory is the fact that an experimentally produced ulcer made by injecting a corrosive into a dog's stomach will bring about hyperacidity.

2. Motility factor—The areas that move most in digestion are the distal part of the stomach and the duodenal cap. This is where the food "traffic" is heaviest and where most ulceration occurs. The vagi control both the peristalsis and the acid secretion in this region.

3. Neurogenic factor—Peptic ulcers in central nervous system lesions, as reported and studied by Cushing; the frequency of personality disorders in ulcer patients, and the known functions of the vagi in controlling the psychic phase of gastric secretion, all emphasize this factor in etiology.

4. Tissue resistance factors—There is a constitutional predisposition and a definite familial tendency which point to some people having more susceptibility to it than others.

5. Vascular factors—This is borne out by the frequently found thrombosed artery near the base of an ulcer; the experimental production of ulcers by tying arteries and giving vasospastic drugs and the aggravation of ulcers by nicotine, itself a vasospastic drug.

6. Miscellaneous factors such as histamine production in burn cases; aggravation of ulcers by administration of ACTH and cortisone and other angles yet to be studied and proven.

INDICATIONS

The criteria for necessity of the surgical treatment of peptic ulcer in the cases herein reported were those generally accepted and recognized by authorities, namely, (1) Intractability or failure of adequate medical management. (2) Hemorrhage of a chronic recurring nature or of a severe degree if acute. (3) Impending perforation or history of perforation one or more times. (4) Obstruction of the pylorus or duodenum so that food cannot properly pass into the lower duodenum. (5) Suspicion or fear of malignant change. All of these cases reported herein fulfilled one or more of these criteria. They were done from 4½ years ago to 6 months ago. Table 1 shows the 28 cases operated upon with relevant facts and data. Four of the cases or 14% had had previous perforation, 14 or 50% had obstruction to a marked degree, 13 or 46% had had hemorrhage. As the

average duration of symptoms for the group as a whole is 14⅓ years they were certainly chronic and intractable. Two of the gastric lesions were highly suspicious of having undergone malignant change, but fortunately in neither instance had it definitely occurred. One case was called lymphosarcoma by four pathologists. Four called it multiple gastric ulceration. So far it appears to have been benign.

AGE DISTRIBUTION: The average age for the group was 40½ years. The distribution by decades is shown in table No. 2.



Table no.2 AGE DISTRIBUTION BY DECADES

PROCEDURE

An Abbott-Rawson tube was placed in the stomach just before surgery. At the appropriate time in the operation this was fed through the gastrojejunal anastomosis. The anaesthesia in all except two cases was given as endotracheal. Pentothal was given for the induction and this was switched to cyclopropane or nitrous-oxide-ether, supplemented by curare and pentothal. Only inhalation anaesthesias were used. Nurse anaesthetists were used on 21 cases, and physician anaesthetists on 7 cases. If a vagotomy was done this was proceeded with first. All vagotomies were done subdiaphragmatically as it was not done unless it was combined with a subtotal gastric resection. (A combined thoraco-abdominal procedure was not needed for this and it was thought unwise to do the double operation as a transthoracic transdiaphragmatic procedure.) A long median or paramedian upper abdominal incision was made and the vagotomy carefully accomplished according to the technique of Dragstedt and associates.¹² This was done prior to the resection for two reasons:—namely, the better mobilization of the stomach for the subsequent gastrectomy and the prevention of me-

TABLE

28 CASES OF PEPTIC ULCER TREATED BY SUBTOTAL GASTRECTOMY,

IDENTIFICATION	Sex	Age	Marital Status	Date of Operation	Duration of Symptoms	Previous Abdominal Surgery	Previous Perforation	Hemorrhage	Obstruction
1. G.B.S. 73088	F	51	M	3-25-47	10 yrs.	No	No	Yes	No
2. H.R. 78149	F	45	M	12-24-47	4 yrs.	6 oper.	No	Yes	No
3. C.C. 79024	M	29	S	2-10-48	4 yrs.	No	No	No	No
4. F.R. 79751	M	28	M	3-29-48	7 yrs.	Hernia	No	Yes	No
5. W.M. 80208	M	40	M	4-28-48	18 yrs.	No	No	Yes	Yes
6. H.M. 80639	M	35	M	5-19-48	10 yrs.	Yes, ulcer	No	No	Yes
7. R.D. 104721	M	55	M	8-25-48	20 yrs.	Yes	No	Yes	No
8. R.B. 82419	M	48	M	8-26-48	8 yrs.	Yes	No	No	Yes
9. M.J. 106091	F	23	M	11- 4-48	3 mos.	Yes	No	No	No
10. G.C.C. 85596	M	31	M	2-18-49	3 yrs.	Yes	Yes	Yes	Yes
11. F.M. 86732	M	32	M	4-20-40	12 yrs.	Append.	No	No	No
12. R.C. 89113	M	49	S	8-24-49	9 yrs.	No	No	No	No
13. J.G. 91893	M	39	M	1-10-50	6 yrs.	Append.	No	Yes	No
14. L.G. 92002	M	41	M	1-25-50	3 yrs.	Append.	No	No	No
15. T.I. 93655	M	41	M	4- 5-50	6 yrs.	No	No	No	No
16. D.J. 94067	M	41	M	4-27-50	12 yrs.	No	No	No	Yes
17. R.K. 94094	M	39	M	4-29-50	4 yrs.	No	No	Yes	Yes
18. J.B. 94552	M	26	S	5-24-50	10 yrs.	Append.	No	No	No
19. W.C. 94974	M	45	M	6-14-50	15 yrs.	Yes	Yes	Yes	Yes
20. C.W.R. 95990	M	38	M	8- 5-50	14 yrs.	Append.	No	Yes	Yes
21. M.M. 96070	F	59	M	8-15-50	3 yrs.	No	No	Yes	Yes
22. J.F. 96887	M	30	M	9-21-50	10 yrs.	Yes	Yes	No	No
23. L.W. 97237	M	59	M	11- 1-50	25 yrs.	Yes, ulcer	No	Yes	Yes
24. J.B.B. 98445	M	52	M	12- 6-50	30 yrs.	Append.	No	No	No
25. E.M. 89772	M	48	M	12-28-50	21 yrs.	No	No	No	Yes
26. R.McG. 99027	M	42	M	1-17-51	15 yrs.	Append.	No	No	Yes
27. C.B. 99916	M	33	M	3- 1-51	6 yrs.	No	No	No	Yes
28. J.J. 101314	M	29	M	4-24-51	14 yrs.	No	Yes	Yes	Yes
Totals or averages	6F 22M	40 yrs.	25M 3S		14½ yrs.	11 no 17 yes	24 no 4 yes	15 no 13 yes	14 no 14 yes

No. 1

HALF OF WHICH ALSO HAD A CONCOMITANT VAGOTOMY

Postop. Days in Hosp.	Com- plica- tions	Type Ulcer	Type of Tube Used	Highest Temper- ature	Vagotomy Done Also	Antibiotic or Sulfa Therapy	Highest Total Acidity	Plasma Used	Amigen Used
20	No	Duo	Levine	100.6	No	Penicillin	62	1	1-vein
11	No	Gast	Levine	101.4	No	Sulfa, penicillin	10	0	0
14	No	Gast	Levine	100	No	Penicillin	85	2	0
14	Yes	Duo	None	104.2	No	Sulfa, penicillin	58	0	0
11	No	Duo	None	99.8	No	None	7	0	2-vein
11	No	Duo	None	99.8	No	Penicillin	39.4	0	2-vein
70	Yes	Duo	Levine	105	No	Strepto., penicillin, sulfadiazine	50	4	1-vein
17	Yes	Duo	None	102	No	None	23	0	1-vein
12	No	Duo	Abbott Rawson	100.8	No	Penicillin	16	0	2-tube
9	No	Duo	Abbott Rawson	102.4	No	Strepto., penicillin, sulfadiazine	54	0	3-tube
11	No	Duo	Levine	99.8	No	Strepto., penicillin		0	3-tube
12	No	Duo	Abbott Rawson	100	No	Penicillin	53	0	1-tube 2-vein
11	Slight	Duo	Abbott Rawson	100.8	No	None	88	0	4-tube
12	No	Duo	Abbott Rawson	101	Yes	Penicillin	94	0	4-tube 3-vein
11	No	Both	Abbott Rawson	101	Yes	Penicillin	66	0	6-tube
11	No	Duo	Abbott Rawson	98.8	Yes	Penicillin	88	0	6-tube
11	No	Duo	Abbott Rawson	101	Yes	Penicillin	42	0	6-tube
10	No	Duo	Abbott Rawson	99.6	Yes	None	43	0	4-tube
10	No	Duo	Abbott Rawson	100.6	Yes	None	50	0	5-tube
11	No	Duo	Abbott Rawson	100	Yes	Aureomycin	72	0	3-vein
11	No	Duo	Abbott Rawson	101.4	Yes	None		0	3-tube
12	Yes	Duo	Abbott Rawson	102.4	Yes	Aureo., penicillin	160	0	3-tube
12	No	Duo	Abbott Rawson	99	Yes	Penicillin	110	0	2-tube
13	Yes	Gast	Abbott Rawson	100.6	Yes	Penicillin	55	0	3-tube
11	No	Duo	Abbott Rawson	99	Yes	Penicillin	24	0	2-tube
10	No	Duo	Abbott Rawson	100	Yes	Penicillin	25	0	2-tube
13	No	Duo	Abbott Rawson	100	No	Penicillin	130	0	2½-tube
13	No	Duo	Abbott Rawson	99	Yes	Penicillin, aureo.	15	0	2-tube
14 days	22 no 6 yes	24 duo 1 both 3 gast	5 Levine 4 none 19 Abbott Raw.	100.5	14 yes 14 no		58.5		

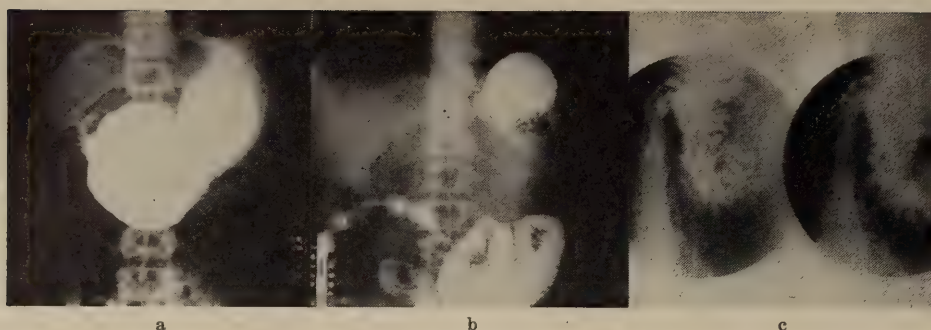


TABLE No. 3
X-RAY FILMS SHOWING TYPICAL CASE

- (a) Before resection (showing dilatation from obstruction).
- (b) After resection, showing 3/5 of stomach to have been removed. There was no noticeable difference observed in the peristaltic movements of the remaining portion of stomach in the cases done without vagotomy from those done with vagotomy. In each the movements were very markedly reduced from normal.
- (c) Spot films showing the uphill gradient of the jejunum as attached to the gastric remnant in the iso-peristaltic modified Hofmeister anastomosis. This serves to delay emptying of the stomach and jejunal pouch, even in the presence of a large stoma which is provided to give easy reflux of jejunal contents into the stomach.

diastinitis by the introduction of infective material after handling of the stomach. Following the removal of approximately 3/5 of the stomach and meticulous closure of the duodenum, gastrointestinal continuity was effected by a termino-lateral gastrojejunostomy of the Hofmeister type. The stoma was made 3cm. in diameter and the jejunum was tacked over the closed portion of the stomach, on the lesser curvature side, the line slanting obliquely upward to patient's right toward the cardia. This makes for slower emptying of the stomach and jejunum. The anastomosis was made anterior to the colon, proximal loop to greater curvature, distal loop to lesser curvature. The anastomosis was done very close to the ligament of Treitz—only 5 to 8 inches away. If the omentum is large, split it or partially remove it. If malignancy is suspected remove it entirely.*

POST-OP CARE—The Abbott-Rawson tube is left in place until bile appears in the fluid and peristalsis returns which usually occurs about 48 hours post-operatively. Amigen or homogenized milk is dripped at a rate of about 20 drops per minute into the jejunum beginning 24-36 hours after operation. The other part of the double lumen tube serves to keep the gastric remnant empty by the application of suction. It is not absolutely necessary to use the Abbott-Rawson tube, however, as in this series a Levine Tube was used five times being passed only into

the stomach and used for suction, and in 4 cases no tube at all was used. All cases did well but I definitely prefer the Abbott-Rawson tube as its dual action is exactly what one wants. It was used in the last 19 cases.

Blood was given during and after operation as indicated to prevent shock and to keep the RBC and Hb levels within normal limits. It was given pre-operatively also in sufficient quantities to bring the blood level up to normal before surgery. This varied considerably from case to case depending on how much bleeding had been occurring from the ulcer. The average number of transfusions for the group as a whole was only 1½ per person and 18 cases had only one transfusion.

Water by mouth was started in small amounts the night after operation—just enough to quench thirst—and the next day allowed in ½ ounce amounts every half hour if desired. Most of the intravenous fluids are given as 5% gluc. in dist. water—only 1000 cc of 5% in Ringers given per 24 hours. Vitamins B and C are given in adequate quantities in intravenous fluids. All are made to take leg exercises and deep breathing exercises from the first day and are encouraged to get out of bed the day after operation. They are compelled to get out of bed and walk by the second or third day after operation.

After water by mouth has been given in increased amounts and tolerated well, milk is given. Then cooked cereals, ice cream, jello, and other soft foods are rapidly added to the diet. They are fed often, getting four meals at 8 AM, 12 N, 4 PM and 8PM and nourishment in between from 6 AM to 10 PM.

*Occasionally in barium enema studies afterwards the transverse colon may show as slightly compressed in this region. Case 1 is such a case. At a neighboring hospital this person was operated upon for a carcinoma of the transverse colon due to this x-ray finding. No malignancy was found at operation.

The usual case in spite of this will lose about 5 to 7 pounds during his hospital stay.

We formerly used amigen or a similar protein intravenously. This was done on 7 cases but since learning that this intravenous protein does not supply the body protein until the caloric requirements of the body have first been met we have discontinued using it.

Antibiotics were used postoperatively in most cases. In 6 cases however, neither antibiotics nor sulfa drug was used. Penicillin was used in 21 cases, streptomycin in 3 cases, aureomycin intravenously in 3 cases and sulfadiazine intravenously in 3 cases.

MORBIDITY

The highest temperature in any one case was 105. This occurred in a case that developed bile peritonitis from a coincident cholecystectomy. At autopsy several months later it was found that she had a carcinoma of her pancreas with generalized peritoneal carcinomatosis. It was thought that the carcinoma of the pancreas blocked the common duct and thereby produced bile backflow from the biliary fossa, probably from an accessory cystic duct. She recovered sufficiently to go home and several months later after two more operations she succumbed.

Several cases had as their highest temperature 99 and in 13 cases the temperature did not go over 100. The average highest temperature for the group was only 100.7.

Atelectasis occurred in 2 cases. This gave them an elevation of 102 and 104 respectively with coughing and dyspnoea, but quickly responded to conservative treatment. An oxygen tent was not needed in these two cases or in any cases of the series except the bile peritonitis from carcinoma of the pancreas case.

One hematoma of the wound occurred. The clot was removed and the skin and fat resutured in the patient's room using local anaesthesia. Months later a calcified mass formed in the rectus muscle. This was removed and was reported as "calcified cicatrix". I considered it a myositis ossificans. Dr. R. L. Sanders of Memphis has had several such "ribs", as he calls them, form following gastric resections (Pathogenesis unknown).

Phlebitis of antecubital vein from infusions—1 case. Respiratory depression from anaesthesia—1 case. This patient was given artificial respiration

from the anaesthesia machine for 2 hours after operation and then his own respiratory mechanism took over. There were no cases of thromboembolism or wound dehiscence, no cases of postoperative hemorrhage into the intestinal tract, and no cases of intestinal or stomal obstruction, leakage of duodenal stump or ordinary bacterial peritonitis. The only peritonitis was the above mentioned case of bile peritonitis associated with the hidden carcinoma. In fact it may be said that with the exception of this one case which is in fact a delayed mortality, there was practically no morbidity at all. The usually listed complications have been absent, particularly is it to be noted that there were no instances of duodenal stump leakage or hemorrhage into the lumen of the stomach or bowel.

RESULTS

The results of gastric resection alone for duodenal ulcer are well known from the postoperative study of literally thousands of cases by many men over a period of many years.¹³ Excellent results are obtained in 85 to 90%. The evidence of recurring ulceration is low—Starlinger of Vienna reported it to be 2.5% in a collected series of 25,647 cases. American surgeons reported approximately the same figure. One bad side effect is hypochromic anemia following subtotal gastric resection which according to some authorities occurs in 5 to 9% of cases.¹⁴ For the purpose of this report these 28 cases have been critically studied collectively and individually and have been studied as two series. Those treated by subtotal gastrectomy alone comprises one and those treated by subtotal gastrectomy with a concomitant vagotomy the other. The first 13 were handled by the gastric operation alone. Of the next 15 cases all except one was treated by the combined procedure, thus balancing up the series to 14 treated each way. We have compared the results largely by personal interviews, by questionnaires, by the performance of preoperative gastric analyses on 26 of the 28, and the performance of postoperative gastric analyses on 25 of the 27 surviving to this date. The results of these gastric analyses pre- and postoperative, and divided into the two groups are shown in tables 4 and 5. The same thing is shown for the average of the group on graphs accompanying. (See table No. 6). A slightly greater diminution of both free and combined acid is seen in the group that had con-

TABLE No. 4
SUBTOTAL GASTRECTOMY WITHOUT VAGOTOMY
PREOPERATIVE GASTRIC ANALYSIS

INITIAL	Case No.	Date	Fast Free	15' Free	30' Free	Fast Comb.	15' Comb.	30' Comb.	Fast Total	15' Total	30' Total
Mrs. G. B. S.....	73088	3-24-47	21	44	40	22	18	10	43	62	50
Mrs. R. H.....	78149	12-15-43	0	0	0	10	3	6	10	3	6
Mr. C. C.....	79024	1-19-48	58	32	59	25	8	13	83	40	72
Mr. F. R.....	79751	5-23-47	0	52	50	15	9	8	15	61	58
Mr. W. M.....	80208	4-23-48	0			7			7		
Mr. H. M.....	80639	5-12-48	20	0	32	15	14	8	35	14	40
Mrs. R. D.....	104721	8-24-48	12	10	34	18	10	16	30	20	50
Mr. R. B.....	82419	8-17-48	0	0	10	13	12	14	13	12	24
Mrs. M. J.....	106091	11- 3-48	0	0	0	4	6	16	4	6	16
Mr. G. C. C.....	85596	1- 5-49	38	22	30	16	8	4	54	30	34
Mrs. F. M.....	86732										
Mr. R. C.....	89113	8-23-48	16	24	49	3	2	4	19	28	53
Mr. J. G.....	91893	1- 9-50	34	50	54	6	18	34	40	68	88
Mr. C. B.....	99916	2-24-51	54	46	40	76	58	72	130	104	112
Average Figure.....			19½	23.3	33	18	14	17	37	40	50

SUBTOTAL GASTRECTOMY WITH VAGOTOMY
PREOPERATIVE GASTRIC ANALYSIS

INITIAL	Case No.	Date	Fast Free	15' Free	30' Free	Fast Comb.	15' Comb.	30' Comb.	Fast Total	15' Total	30' Total
Mr. L. G.....	92002	1-20-50	36	68	70	24	15	24	60	83	94
Mr. T. I.....	93655	3-23-50	16	32	50	28	28	16	44	60	66
Mr. D. J.....	94017	1-16-50	88	36	68	22	3	7	110	39	75
Mr. R. K.....	94094	4-28-50	10	19	30	10	19	12	20	38	42
Mr. J. B.....	94552	5-23-50	17	18	31	23	10	12	40	28	43
W. C.....	94974	6-13-50	21	15	40	10	12	10	31	27	50
Mr. C. W. R.....	95990	8- 4-50	0	32	14	16	40	20	16	72	34
Mrs. M. M.....	96070										
Mr. J. F.....	96887	9-20-50	32	24	64	52	20	96	84	54	160
Mr. L. W.....	97237	7-29-50	102	65	40	8	15	30	110	80	70
Mr. J. B. B.....	98445	6-15-50	26	40	30	20	14	22	46	54	55
Mr. E. M.....	98772	12-27-50	0	12	0	12	12	15	12	24	15
Mr. R. McG.....	99027	1-15-51	2	5	1	12	20	14	14	25	15
Mr. J. J.....	101314	9-17-49	0	0	0	15	10	15	15	10	15
Average Figure.....			27	32	34	19	17	23	46	46	56

comitant vagotomy. However this group has been operated upon only 12 months on the average, while the other group has been done 32 months.*

The results of the questionnaires and personal interviews are shown in tables 7 and 8. To the question—"Have you had any returns of your former

*Our postoperative gastrics being done with 70cc of 7% alcohol test chiefly the gastric phase of secretion. If they had been done with a very appetizing meal it would also have tested the cephalic (vagus) phase. The insulin test checks primarily the vagus stimulating effect. The histamine test is an absolute test which brings out acid unless all acid secreting cells have been removed. Histamine is thought to act directly on the parietal cells, having a selective affinity for them. The secretory response to histamine is not affected by either vagotomy or atropine¹⁵. As part of the fundus remains after these operations there are parietal cells remaining and naturally the histamine test would show acid. It as a test for these cases is therefore not applicable.

symptoms?", all of the subtotal gastrectomy *with* vagotomy answered "no". All except one of the subtotal gastrectomy *without* vagotomy group said "no". This case was one that developed recurrent pain about 4 months after operation. She showed no free acid in her gastric analysis at this time. A transthoracic vagotomy was then done upon her but without relief of symptoms. She was then seen and studied at Johns Hopkins Hospital. X-ray was negative for marginal ulcer. No ulcer was seen on gastroscopic examination. Moreover her pain was not of an ulcer type, and she was finally considered a psychoneurosis and treated by a psychiatrist. She was then operated upon at Duke University and no ulcer found. She was again referred to a psychiatrist.

To make a more critical analysis we then made more detailed inquires for certain symptoms. To the question—"Do you have any pain, dyspepsia, or indigestion following meals," we received three positives in each group. To the question, "Do you ever get a fainty or weak feeling soon after eating," we received 5 positives in the first group and 6 positives in the vagotomy group. Some of these people said, "very slight" or "very rarely," or "occasionally" and the symptoms were never mentioned voluntarily by them, but only when elicited by direct questioning in personal interviews. It was therefore not a serious symptom to them. There is only one case that it can in any way be considered as

bothersome and he was done with a vagotomy. This case has been done recently and with time it will undoubtedly improve. I do not think this case represents a true dumping syndrome but only rapid carbohydrate absorption.

The matter of pre- and postoperative weight was ascertained. The postoperative weight was considered as the weight at the present time. In the group without concomitant vagotomy there were five who weighed less than before operation, four who weighed more, and four who weighed the same. (1 deceased). These were on the average 32 months after operation. Their total weight as a group before was 1892 and afterwards 1884, a loss of 8 pounds.

TABLE No. 5

SUBTOTAL GASTRECTOMY WITHOUT VAGOTOMY

POSTOPERATIVE GASTRIC ANALYSIS

INITIAL	Case No.	Time Interval (Months)	Date	Fast Free	15' Free	30' Free	Fast Comb.	15' Comb.	30' Comb.	Fast Total	15' Total	30' Total
Mrs. G. B. S.....	73088	54½	8- 9-51	0	0	0	15	qns	17	15	qns	17
Mrs. H. R.....	78149	43½	8- 7-51	0	0	0	36	qns	qns	36	qns	qns
Mr. C. C.....	79024	38	3-17-51	16	10	25	20	14	23	36	24	53
Mr. F. R.....	89751	51	8-13-51	0	0	0	0	4	4	0	4	4
Mr. W. M.....	80208											
Mr. H. M.....	80639	39	8-14-51	0	0	0	36	13	qns	36	13	qns
Mrs. R. D.....	104721											
Mr. R. B.....	82419	36	8-17-51	0	10	14	14	20	25	14	30	39
Mrs. M. J.....	106091	7	6- 3-44	0			6			6		
Mrs. G. C. C.....	85596	30½	7-18-51	0	qns	0	30	qns	20	30	qns	20
Mrs. F. M.....	86732	28	8-11-51	0	0	20	23	18	30	23	18	50
Mr. R. C.....	89113	35½	8- 9-51	0	0	0	19	18	18	19	18	18
Mr. J. G.....	91893	19	8- 8-51	0	1	10	26	13	28	26	12	38
Mr. C. B.....	99916	½	3-15-51	0			0			0		
Average Figure.....		32		1	2	7	19	14	21	20	15½	30

SUBTOTAL GASTRECTOMY WITH VAGOTOMY

POSTOPERATIVE GASTRIC ANALYSIS

INITIAL	Case No.	Time Interval (Months)	Date	Fast Free	15' Free	30' Free	Fast Comb.	15' Comb.	30' Comb.	Fast Total	15' Total	30' Total
Mr. L. G.....	92002	18½	8-11-51	0	0	0	13	14	15	13	14	15
Mr. T. I.....	93655	17	8-21-51	0	0	0	30	20	18	30	20	18
Mr. D. J.....	94017	6¾	8- 8-50	0	9	15	0	3	6	0	12	21
Mr. R. K.....	94094	15½	8-10-51	0	0	0	20	13.6	15.4	20	13.6	15.4
Mr. J. B.....	94552											
W. C.....	94974	13¾	8- 3-51	0	0	0	18	12	14	18	12	14
Mr. C. W. R.....	95990	11¾	7-26-51	0	0	4	20	26	28	20	26	32
Mrs. M. M.....	96070	11½	7-26-51	0	0	2	27	20	28	27	20	26
Mr. J. F.....	96887	10½	8- 8-51	14	0	0	40	20	qns	54	20	qns
Mr. L. W.....	97237	12½	8-14-51	0	0	0	54	18	qns	54	18	qns
Mr. J. B. B.....	98445	13	7-13-51	24	5.4	18	51.2	20	30	75.2	25.4	48
Mr. E. M.....	98772	9	8-18-51	0	0	0	40	30	24	40	30	24
Mr. R. McG.....	99027	6½	8- 1-51	0	0	0	21	20	21	21	20	21
Mr. J. J.....	101314	6	8-30-51	0	0	0	60	24	18	60	24	18
Average Figure.....		12		3	1	3	30	18½	20	33	20	23

In the gastrectomy with vagotomy group there were seven who weighed more, four who weighed less, and three who weighed the same. Their aggregate weights were 2169 pounds before operation, 2221 after operation, a gain of 52 pounds for the group as a whole. These were on the average 12 months after operation. This refutes the oft stated criticism of failure to maintain weight after gastric resection.

When we gave the patients a more specific question classifying the result of their operation, 3 in the "with vagotomy" group said "they were greatly benefited but not completely cured", 11 were completely cured. In the "without vagotomy" group two said "greatly benefited but not completely cured", one said "no benefit", 10 were completely cured and one dead.

There were no cases of diarrhoea, but several were no longer bothered with a preexisting bad constipation.

There therefore seems to be a slight advantage in the concomitant vagotomy as shown by a slightly greater diminution of free acid and total acidity, better body weight and slightly better subjective symptoms. Considering the cases as a whole, and excluding the one case that died of another disease, it may be said that a good result was obtained in 26 out of 27 cases, or 96.3%.

RATIONALE OF THE COMBINED OPERATION

One accomplishes by subtotal gastrectomy with vagotomy

1. By removing the antrum the hormonal mechanism (gastrin) is entirely eliminated.
2. By resecting also the greater part of the fundus most of the acid secreting and pepsin secreting areas are removed, thus decreasing the capacity of the stomach to secrete HCL and pepsin from whatever stimulus.¹⁶
3. More rapid emptying rate of the stomach remnant due to the larger stoma and the direct straight drop for the food which therefore is unable to make full use of its remaining secretory capacity from direct stimuli during the gastric phase.
4. Maximal neutralization of the free HCL still present in some cases by an increased regurgitation of alkaline duodenal juice, and by the profuse occurrence of mucous. (Boyd has adequately shown that in the normal stomach, during the latter part of digestion, acidity is diminished by the reflux of bile and alkaline juices through the pylorus.)
5. Atrophy of disuse of the parietal cells due to the elimination of the gastrin stimulus.
6. By section of the vagus nerve:
 - (a) Complete elimination of the cephalic phase of gastric secretion.
 - (b) Interdigestive acidity is markedly reduced

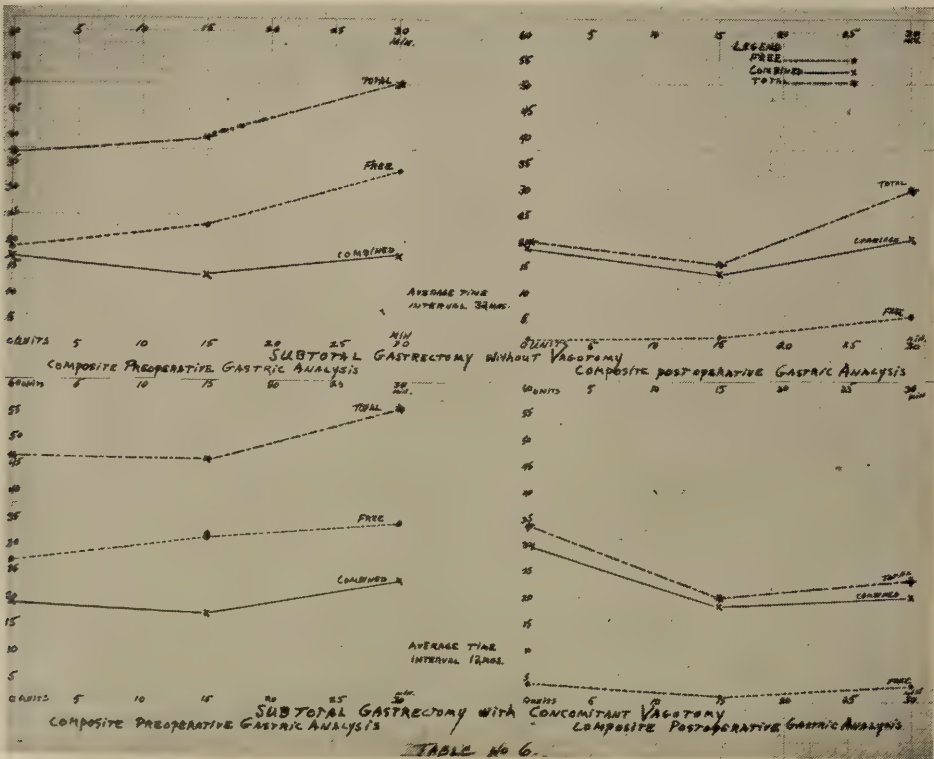


TABLE No. 7
14 CASES SUBTOTAL GASTRECTOMY WITHOUT CONCOMITANT VAGOTOMY—RESULTS OF QUESTIONNAIRE

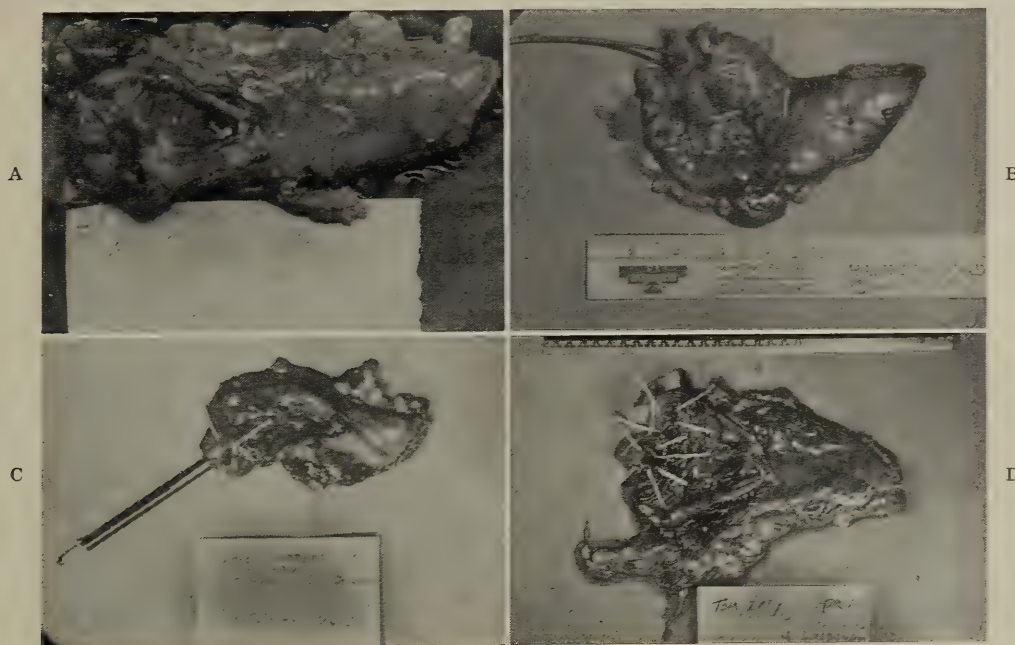
	Mrs. G.B.S. 73088	Mrs. H.R. 78149	Mr. C.C. 79024	Mr. F.R. 79751	Mr. W.M. 80208	Mr. H.M. 80639	Mrs. R.D. 104721	Mr. R.B. 82419	Mrs. M.J. 106091	Mr. G.C.C. 85596	Mrs. F.M. 86732	Mr. R.C. 89113	Mr. J.G. 91893	Mr. C.B. 99916	Comments
Have you had any return of former symptoms?	No	No	No	No	No	No	Died	No	Yes	No	No	No	No	No	1 died 1 with symptoms
Is there any pain, dyspepsia, or indigestion following meals?	No	No	Yes	No	No	No		No	Yes	No	No	Occas.	No	No	3 yes
Do you ever get a fainty or weak feeling soon after eating?	Yes	Nausea	No	Occas.	No	No		Yes	No	No	Occas. nausea	No	No		5 cases that get rapid cho. absorp- tion
Weight before operation	136	150	167	152	141	140		151	138	132	133	127	185	140	1892 total
Weight after operation	100	150	167	152	150	190		133	128	133½	125½	120	185	150	1884 total
How would you classify the result? Completely cured	Yes	Yes	Yes	Yes	Yes	Yes				Yes		Yes	Yes	Yes	10 yes
Greatly benefited, but not completely cured								Yes			Yes				2 yes
Improved only															
No benefit from operation									Yes						1 yes

by vagotomy as shown by night secretion studies.¹⁶

- (c) Uvnal in 1942 showed in dogs that impulses from the vagus released the hormone gastrin which stimulated the production of acid.
- (d) By section of the vagi the motor activity of the stomach is diminished, and the responsiveness of the parietal cells to all stimuli is diminished, either direct or central.

AS REGARDS GASTRIC ULCER IN CONTRADISTINCTION TO DUODENAL ULCER

The chief problem in gastric ulcer is the possibility of cancer developing. For this reason gastric resection is the operation to do for gastric ulcer. Vagotomy alone is contraindicated because it stops the pain, masks the symptoms, leaves the disease process in situ for the possible growth of cancer which is thought to occur in 10% of ulcers that are considered benign (Welch).¹⁸ Dragstedt and associates no longer use vagotomy for this condition. They use a subtotal



SOME TYPICAL PHOTOGRAPHS OF SPECIMENS REMOVED AT OPERATION

- A. Typical large duodenal ulcer. Twenty year history. (Case 25)
- B. Typical duodenal ulcer. Ten year history. (Case 6)
- C. Typical duodenal ulcer. Three year history. (Case 14)
- D. Combination of duodenal and gastric ulcers in a case with a six year history. (Case 15)

- (e) The intestinal phase of gastric secretion (the secretagogue effect) (the products of digestion such as peptones and amino-acids) is partially affected as the response to these stimuli is proven to be reduced by vagotomy, and it is inhibited by the administration of atropine (Babkin 1944).¹⁷

So cutting the vagi may work on both the psychic and hormonal routes. However months after vagotomy there is noted a gradual "escape" from its effects.

7. If the resection is technically difficult dividing the vagus fibers permits more adequate mobilization facilitating a higher resection.

gastrectomy. (Hypersecretion of neurogenic origin is not present and gastrectomy gets the growth out which is especially important in case an early malignancy is present). There seems little reason to do a concomitant vagotomy unless the patient has an extremely high free acid. These cases frequently have a normal or subnormal acidity. Our case No. 2 was like that, having an absence of free acid and a low total acidity with a gastric ulcer.

WHAT VARIOUS AUTHORITIES THINK ABOUT THE COMBINED OPERATION FOR DUODENAL ULCER

In Colp's series of 190 cases⁴ which were followed from 2 to 24 months 102 were treated by gastrectomy alone. Of these 87% were classified as well, 10%

improved, and only 3% as failures. In 88 cases in which both gastrectomy and vagotomy were done 91% were well, 9% improved and none classified as unimproved. Colp believes that the combined procedure is especially indicated in those patients with an excessively high preoperative acidity, and in those who have hemorrhage, without pain. Both of these types are apt to have subsequent jejunal ulceration. Hinton found 15 cases of dumping syndrome in 62 cases or 24% when the complementary vagotomy was done. He therefore discontinued the vagotomy as a routine procedure. He feels vagotomy has a place only in superficial ulcers, usually seen in young individuals with massive recurring hemorrhage and an extremely high free hydrochloric acid (such as 60 to 80 units on a fasting stomach), complete absence of pain and x-ray evidence of a superficial ulcer.

At the Henry Ford Hospital Fallis and Barron⁷ report that since early in 1946 they have performed subtotal gastrectomy plus vagotomy in practically all patients with duodenal ulcer. In none of these patients has a marginal ulcer appeared and they have had no dumping syndrome. They use the von Haberer-Finney modification of the Billroth I operation.

Walters, Belding and Lillie report in *Archives of Surgery*⁵ that in 353 cases of vagotomy combined with gastric resection for duodenal ulcer, the results were excellent in 85.9%, satisfactory in 11.3% and poor in 2.8%. These are statistics collected by the Vagotomy Committee of the American Gastroenterological Association. Walters states that for selected persons of the high tension type with large amounts of free HCl vagotomy may be combined with gastric resection. Lahey states that an indication for the combined procedure of vagotomy and subtotal gastrectomy is the history of repeated duodenal ulcer hemorrhage. He cites the increased incidence of hemorrhage following gastric resection in these cases.

CONCLUSION

We believe that the findings in this relatively short term follow-up on an admittedly small series of cases tends to show that the rationale of the combined attack on cephalic and gastric phases of gastric secretion is justified when used on duodenal ulcer cases that have an extremely high acid figure, and that it should be continued on an investigative basis.

Other than in the presence of this indication we feel at the present time and in the present scope of our knowledge, it is best to hold the vagotomy in reserve should a recurrent (marginal) ulcer develop. It must be emphasized that the combined procedure of vagotomy plus gastrectomy for intractable duodenal ulcer is in an early stage of evaluation. It is hoped that this report added to those already in the literature like that of Colp, Hinton, Fallis & Barron, Kleitsch, Hatch to mention a few, will further stimulate reports on this combined procedure so that in a few years with an adequate follow-up it may be properly evaluated.

* * *

Since this paper was prepared, there have been 10 additional cases done without fatality or morbidity and with the same general good results.

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British Films Added to AMA Library.

Two British films—"Some Aspects of Cancer-Skin" and "Some Aspects of Cancer-Rectum"—will be available about October 1 from the AMA's Committee on Medical Motion Pictures. The films are suitable for professional meetings only.

Rural Health Radio Series Available.

An eight-week radio transcription series on rural health entitled "Help Yourself to Health" will be released October 15 by the AMA's Bureau of Health Education to state and county medical societies. The series consists largely of true stories about small American communities which have successfully solved their health problems through local initiative

and effort. Citizens from these communities tell the stories in their own words.

Verbatim comments used in the transcriptions were tape-recorded at the National Conference on Rural Health held in Denver. The series was produced by the Rocky Mountain Radio Council. Each program runs 15 minutes.

Covered in the series are such vital topics as "How Small Towns Can Get a Doctor," "How Small Towns Can Keep a Doctor," "Training Rural Doctors," "Working Together for Health" (health councils) and "Projects for Your Health Council." The theme that "self-help is the American way" runs throughout the programs.

DELAYED POSTOPERATIVE TONSIL HEMORRHAGE:
CONCLUSION OF RECENT STUDIES*

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In April, 1948, I presented a paper on "Postoperative Tonsil Bleeding", before the American Laryngological, Otological and Rhinological Society at Atlantic City¹. At this time a study of 3260 cases a series of 4734 tonsil operations for the study of delayed postoperative bleeding.

The following chart shows the completed study by years from 1939 to 1951 inclusive:

INCIDENCE OF DELAYED HEMORRHAGES ENCOUNTERED AFTER TONSILLAR OPERATIONS IN THE YEARS 1939-1947					
Without Synkavite Medication			With Synkavite Medication		
Year	No. of T & A	No. of Late Hemorrhages	Year	No. of T & A	No. of Late Hemorrhages
1939	284	13	1944	385	8
			(no change of technique to this point)		
1940	256	11	1945	483	19
1941	226	16	1946	518	6
1942	303	19	1947	451	3
1943	354	16	1948	367	8
	—	—	1949	397	8
Total	1,423	75	1950	396	4
			1951	314	6
			Total	3,311	62
Incidence of delayed hemorrhage 5.2%			Incidence of delayed hemorrhage 1.87%		

of tonsillectomy, with or without adenoidectomy, was reported. The incidence of delayed postoperative bleeding was reduced from 5.2% for the five year period from 1939 to 1943 inclusive, to 1.95% for the period from 1944 to 1947 inclusive. At this time we attributed this decrease in incidence of hemorrhage to limiting the intake of aspirin and the use of vitamin K for one or two days before operation and continuing it through the convalescence period for 10 days. In conjunction with this, we provided typed preoperative and postoperative instructions to each patient. Also, we felt that we had definitely reduced trauma by a few simple changes in technique, such as more frequent use of the Beck Schenk instrument and the practice of removing the adenoids before surgery on the tonsil itself.

Since the original report we have not found it necessary to change our procedure. We have added 1474 cases of T & A operations done in the four year period 1948 to 1951 inclusive. This provides

Neivert, Pirk & Engleberg² presented studies emphasizing the dangers of aspirin causing hypoprothrombinemia and decreased their number of cases with late bleeding by limiting its intake and counteracting its effect with vitamin K.

Fishman and Lebo³ reported 341 cases of tonsillectomy followed by only 0.5% postoperative hemorrhage. Their cases used aspirin freely without medication to prevent bleeding. They concluded that the use of the Beck Schenk snare had reduced operative trauma and resulted in the fewer hemorrhages.

McGovern⁴ attributed his low incidences of bleeding in 150 cases of tonsillectomy to the use of chewing gum containing sulfathiazole.

Fox⁵ carefully studied a series of cases and concluded that Aspergum, possibly from its direct local action on the tonsil fossa, was the cause of hemorrhage. He attributes his lowered hemorrhage incidence to his insistence that his patient not use Aspergum.

My interest in Dr. Fox's observations prompted me to send questionnaires to 17 cases of delayed post-

*Read before the Triological Society at its recent meeting in Atlanta.

operative tonsil hemorrhage occurring in the 3 years 1949 to 1951 inclusive. Fifteen replies were returned. Ten cases had delayed bleeding without the use of any Aspergum, while five had used Aspergum. While the number of cases is small, it nevertheless clearly indicated that Aspergum was not the cause of delayed bleeding in the cases studied by me.

One cannot deny that these various observers have truly reduced the incidence of delayed hemorrhage in their tonsil surgery. The fact that each of them approached this subject from different angles and attributed different measures as the cause of reduction of bleeding in their cases, leads one to doubt if anyone of these measures is the single and sole cause of delayed post tonsillectomy bleeding. Rather, one would suspect that some measure or measures practiced by each of them might have lowered the incidence.

In all these studies I am sure that in the mind of the surgeon, the great emphasis placed on the problem of tonsil bleeding has prompted, consciously or otherwise, his closer attention to certain general measures pertaining to the better care of his patient. Some of these might be listed below as follows:

I. More care in the preparation of the patient, such as a longer convalescent period following acute upper respiratory infections. It would seem unwise to operate upon patients earlier than three or four weeks after an acute nose and throat infection. Especially liable to bleed are patients who have had acute rheumatic fever and whose sedimentation rate has not returned to normal. During epidemics of measles or other acute infectious disease, postoperative hemorrhage is more frequently encountered.

Some method of assuring prompt and efficient

clotting of the blood is desirable before operation and throughout convalescence.

II. The more generous use of antibiotics, before and after operation, thereby reducing infections. Penicillin given while the patient is asleep will avoid the pain and, in case of children, the fright of hypodermics.

III. Improved technique at the time of operation, thus minimizing trauma and complete hemostasis while on the table. Meticulous care to avoid tearing of the pillars, the trauma of too strong suction, and the leaving of tags of tissue are measures of importance.

IV. Written detailed instructions for postoperative care, thus impressing on those responsible, the possibility of hemorrhage and the necessity to restrict the patient's actions, decrease the dehydration and starvation, and limit such drugs known to prolong the prothrombin time.

It would seem to me that if one has a high incidence of delayed postoperative tonsillar hemorrhage, one should use such specific means as he might find useful in his cases. Emphasis, however, should be placed on the closer attention to the general care of the patient, preoperatively, on the table, and postoperatively.

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AMENORRHEA—ORAL ESTROGEN— PROGESTERONE TREATMENT

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Dual ovarian steroid therapy in the form of orally administered hormones has been employed in the treatment of amenorrhea. Orally active ethinyl estradiol and anhydrohydroxyprogesterone in a dose relationship of 1:1000 combined in a single tablet was the therapy employed. The tablets were given daily for a period of five days and cycles of treatment were repeated periodically over several months in an attempt to establish cyclic menstruation. Therapy was started twenty days from the first day of each induced bleeding episode, thus establishing bleeding cycles of approximately twenty-eight days.

OVARIAN-STERIOD WITHDRAWAL BLEEDING

Menstruation occurs physiologically as the result of corpus luteum involution with a consequent withdrawal of estrogen and progesterone. The characteristic endometrial changes induced by the ovarian steroids were first reported by Kaufman¹. It was Zondek² who developed a planned schedule of therapy for the treatment of amenorrhea. He recommended the administration of estrogen for a period of twenty-five days to be followed by progesterone administered over a period of five days. The menstrual irregularities^{3,6} dysmenorrhea^{7,12}, sterility¹³, and habitual abortion^{14,17}, have all been treated by this cyclic administration of these hormones with varying degrees of success. It was Greenblatt who first observed that the parenteral administration of estrogen and progesterone over a five-day period was followed by endometrial desquamation; he called it "medical curettage"³.

To simulate normal function those agents used to induce the phenomena should resemble, chemically and pharmacologically, the endogenously produced hormones. Uterine bleeding may be induced in amenorrheic women by either estrogen^{18,20} or progesterone^{21,25}. Administration of both estrogen and progesterone is followed upon withdrawal by desquamation of endometrium and a phase of uterine bleeding having many characteristics in common with normal menstruation. Although bleeding occurs following the withdrawal of estrogen alone the endometrial shedding following estrogen-progesterone

withdrawal seems to stimulate the anterior lobe of the pituitary to take up its production of gonadotropic hormones for the maturation of the follicle in the succeeding cycle and thus seems to reorient pituitary-ovarian physiology^{26,27}. The endometrial pattern following administration of estrogen and progesterone during the latter part of the cycle approximates that seen preceding normal menstruations.

ORAL STEROID THERAPY IN FUNCTIONAL AMENORRHEA

Cyclic steroid therapy has been widely used in the treatment of menstrual irregularities since Zondek developed a planned schedule of treatment²¹. He recommended the administration of estrogen over a period of twenty-five days to be followed by progesterone over a period of five days. His treatment schedule as well as all others heretofore recommended has depended upon the parenteral route of administration of one or the other of the hormones. In view of the relative simplicity, convenience, and economy of oral medication, a clinical study of an orally effective estrogen-progesterone combination was undertaken.*

Fifteen patients with amenorrhea (nine primary, six secondary) were treated with 0.01 mg. of ethinyl estradiol and 10.0 mg. of anhydrohydroxyprogesterone combined in a single tablet. The ages of these patients varied from nineteen to thirty-six years. The intervals since their last menstruation ranged from five weeks to eighteen months.

Endometrial biopsies were obtained in fourteen of these patients before treatment was instituted. A proliferative phase endometrium was found in seven, a secretory phase endometrium in six, and a transitional phase in one patient. Those patients in whom a progestational endometrium was found were in every case patients with short periods of amenorrhea. These patients require no treatment. Their defect is one of either delayed ovulation or prolonged corpus luteum survival. The induction of bleeding in anovulatory patients demonstrated that

*Duosterone tablets, supplied through the courtesy of the Roussel Corporation, 155 E. 45th St., New York.

simultaneous oral administration of the two steroids in adequate dose was consistently effective in the induction of withdrawal bleeding.

The next step was an effort to determine the minimum effective intake of hormones. In a group of ten patients the dose was five tablets daily for five days. Four patients showed evidence of bleeding following the first treatment cycle. In one patient uterine bleeding occurred while under treatment, hence the bleeding was regarded as not having been induced by the medication and that patient was eliminated from the study.

In those cases where no bleeding occurred after the first treatment cycle, administration of five tablets daily for five days was begun on the tenth or twelfth day following the first day of the last treatment. Where bleeding was induced, treatment for the second cycle was started on the twenty-first, twenty-second, or twenty-fifth day following the first day of the last treatment.

As a result of the second treatment cycle uterine bleeding occurred in seven of nine patients (77.7%). Following the third successive treatment cycle uterine bleeding was induced in all patients.

OVARIAN STEROID THERAPY IN MENOPAUSAL AMENORRHEA

Fourteen patients suffering from menopausal symptoms were treated with this steroid combination. All of these patients had an amenorrhea of three months or longer. In a dose of three tablets daily for a period of eighteen to thirty-one days the medication proved highly efficacious for the relief of vasomotor symptoms of the climacteric. It imparted a sense of well being to the patients over and above that generally experienced after administration of estrogens alone. The great objection to this combined steroid treatment in the menopause is the high incidence of withdrawal bleeding. However, in a dose of one tablet daily symptoms may be moderated and bleeding avoided.

SUMMARY

In summary, it was learned that tablets containing anhydrohydroxyprogesterone 10.0 mg. and ethinyl estradiol 0.01 mg. in an oral dose of five tablets daily administered to patients with secondary amenorrhea for five days induced a scanty bleeding phase in 44.0% of the patients in the first treatment

cycle. Withdrawal bleeding was increased to 77.7% following the second course of treatment and all showed a bleeding response at the conclusion of the third course. A somewhat improved bleeding response was obtained when the daily dose was doubled.

Repeat treatment with a dose of five tablets daily for five days in three consecutive cycles induced a secretory phase of the endometrium in about 50% of the patients.

It was found necessary to administer approximately ten tablets daily for five days in order to induce a full secretory phase endometrium.

CONCLUSIONS

1. Tablets containing a mixture of orally effective anhydrohydroxyprogesterone and ethinyl estradiol were evaluated in the cyclic treatment of amenorrhea.
2. The combination of anhydrohydroxyprogesterone (10.0 mg.) and ethinyl estradiol (0.01 mg.) is a satisfactory combination for the treatment of functional amenorrhea when administered in adequate dose over three consecutive cycles.
3. Treatment with this combination seems to be somewhat more than pure substitutional therapy in that it appears to establish a normal pituitary-ovarian rhythm in some patients.

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Medical Arts Building

PR Conference in Denver.

The AMA's fifth annual National Medical Public Relations Conference will be held Monday, December 1—the day before the opening of the Clinical Session—at the Shirley-Savoy Hotel, Denver. Theme of the one-day meeting will be "Mutual Understanding . . . the Key to Better PR." The Conference program will be geared primarily for physicians. Members of the House of Delegates, officers of state and county medical societies, officers of the Association and executive secretaries and PR personnel are cordially invited.

New Radio Series on Sports and Health.

A new series of radio transcriptions dealing with sports and health subjects will be available about December 15 from the AMA's Bureau of Health Education for use by local radio stations. The programs are based upon on-the-scene interviews with Olympic winners in Helsinki, Finland, and with national champions and other outstanding sports figures in this country.

Topics cover personal aspects, athletic accomplishments, team practice and health values of sports.

Industrial Firms Purchase "Today's Health" for Employees.

Large bulk orders of "Today's Health" magazine from several American industrial firms have been reported by the "Today's Health" Circulation Department as a result of continued promotion to industrial physicians. The Timken Roller Bearing Company of Canton, Ohio, for example, currently provides copies of "Today's Health" for the more than 1,300 supervisory personnel throughout its organization. The Chesapeake and Potomac Telephone Companies of Washington, D. C., have purchased about 250 subscriptions for chief operators in the Virginia, Maryland, West Virginia and District of Columbia area.

This year, the Pepsi-Cola Company is supplying "Today's Health" to a dozen of its locally-owned branch offices on a trial basis. If successful, the company will encourage all of its branch offices to subscribe for employees. Many firms are ordering from six to twelve copies for employee reading rooms.

NON-SPECIFIC INFLAMMATORY TUMORS OF THE COLON— FOUR CASES FROM THE SIGMOID

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Tumor-like inflammatory lesions of the gastrointestinal tract have been appreciated since the days of Virchow. An awakening of interest in these lesions began when Lord Moynihan⁵ in 1907 published a paper entitled, "Mimicry of Malignant Disease in the Large Intestine". In this paper, he stated that "The inflammatory tumors of the large intestine, excluding the tuberculous conditions, are, it would appear, far more frequent than we have supposed". In 1938 Dudley and Miscall² reviewed the history of inflammatory tumors of the intestine. They pointed out that in 1909 Heinrich Braun was the first investigator to describe in detail the gross and microscopic pathology of these lesions and to separate them from the specific granulomata. Since then, non-specific inflammatory lesions of various sorts have been reported occurring everywhere in the gastrointestinal tract from the esophagus to the anus. It was not until 1923 when Moschowitz and Wilensky⁴ reported four cases in an article entitled "Non-Specific Granulomata of the Intestines", that the surgeons in this country began to show more than casual interest in this subject.

Etiology:

The etiology of non-specific inflammatory tumors is unknown. Erdman and Burt³ express the opinion of most writers when they say, "It is our feeling that there is first an interruption in the continuity of the mucosa as a reaction to the presence of an infectious or toxic agent or an indefinite foreign body, resulting in ulceration of the mucosa. With the destruction of the mucosa, active infection follows and extends into the wall of the intestine, setting up a low grade inflammatory process which manifests itself in the cellular infiltration and connective tissue formation, which constitute these granulomata". Other factors which may play a part in the formation of these lesions are chronic ulcers, foreign bodies, allergy, trauma, corrosive enemata, and extension into the bowel wall of extra-intestinal inflammatory processes such as pelvic infections in the female. Conceivably, partial or temporary occlusion of the blood supply of a segment of bowel involved

in a volvulus, intussusception, or strangulated hernia could initiate the changes leading to granuloma formation.

Possibly an over-simple explanation for the predilection of granulomata for the terminal ileum and the sigmoid colon can be found in the anatomical fact that in these two locations the lumen of the bowel is more narrow than anywhere else in the lower gastrointestinal tract. It seems logical to assume that since the mucosa is theoretically subjected to more wear and tear in these two places, breaks in the mucosa occur more frequently here than anywhere else, thus setting the stage for granuloma formation.

Sigmoid diverticulitis is the commonest cause of inflammatory tumors of the colon, and, although the inflammatory process is of a non-specific nature, it is more properly considered a definite entity with a demonstrable cause. It is not under consideration here.

Pathology:

Non-specific granulomata of the colon are related to the more common clinical entities, regional ileitis and ulcerative colitis. In 1932, Crohn, Ginzburg, and Oppenheimer¹ first described regional ileitis. They said, "The so-called benign granulomas all present a tumor-like inflammatory mass which usually simulates carcinoma which eventually unmasks itself as probably an infectious process of unknown causation. The multiplicity of the possible sites of gastric, intestinal, or colonic involvement and the accompanying protean clinical manifestations defeat any effort to include them all in a clear cut clinical entity. The very confusion defies classification". They then continue, "Just as the generic term of typhus originally included various diseases, from which group eventually typhoid fever, Brill's disease, Rocky Mountain fever, tabardillo and others were split off, so, similarly, do we aim to disintegrate from the general group of varied diseases spoken of as 'benign granuloma' a specific clinical entity with constant and well defined characteristics, which we propose to name 'regional ileitis'." In

1948 Warren and Sommers⁷ reviewed one hundred and twenty cases of regional ileitis which they termed "cicatrizizing enteritis". They, too, concluded that several rather constant histological findings make it an acceptable pathologic as well as a clinical entity. Dudley and Miscall² believe that the terms inflammatory tumor, infective granuloma, non-specific granuloma, chronic cicatrizing enteritis, regional ileitis, terminal ileitis and others are all synonymous. Perhaps the disease ulcerative colitis should be included with these terms since its etiology is also unknown, and pathologically there is overlapping of the "characteristic" findings in ulcerative colitis, non-specific granuloma of the colon, and the others above. One occasionally sees in the colon a discrete inflammatory tumor of an idiopathic nature which is accompanied by findings of mild generalized colitis. Conversely, the picture of full blown ulcerative colitis is occasionally seen in an isolated segment of an otherwise normal colon. In short, there is no convincing evidence that all of these conditions are not simply different manifestations of a common pathogenesis. Clinically, however, the discrete, non-specific, benign granulomas should be considered separately.

In most non-specific granulomata of the colon, grossly the bowel presents an edematous thickening of variable density, often with rather discrete borders, and appearing to involve all of the layers of the bowel wall. The mesentery and pericolic fat are thickened and indurated. Enlarged regional lymph nodes are a constant finding. Fresh adhesions to surrounding structures are common and sometimes small abscesses are encountered. The mucosa may present small, irregular, ragged, superficial ulcerations. Pseudopolyps may be present. As often as not, the mucosa is intact.

Microscopically the lesions show varying degrees and stages of acute and chronic inflammation with infiltration by lymphocytes, plasma cells, polys, mast cells, eosinophiles, and macrophages. Giant cells of the foreign body type are commonly seen. A varying fibroplastic reaction is always present. New blood vessel formation is sometimes a prominent finding. Submucosal edema which contributes to the narrowing of the bowel lumen is usually present. Dilated lymphatics and hyperplasia of the regional lymph nodes are generally seen.

The lesion must be distinguished from neoplasms

and the specific granulomata. Syphilis, actinomycosis, lymphogranuloma, amebic disease, histoplasmosis, and tuberculosis may be difficult to exclude. So-called hyperplastic tuberculosis of the colon is a diagnosis that should not be used unless the tubercle bacillus can be demonstrated in the excised tissue. Prior to the work of Crohn, Ginzburg, and Oppenheimer most of the non-specific inflammatory bowel tumors were diagnosed as hyperplastic tuberculosis. In the non-specific granulomata caseous necrosis is not seen, the granulomata are microscopically not as distinct, and the giant cells are not of the typical Langhans type.

Symptoms:

The clinical manifestations of inflammatory tumors of the colon depend on the stage and severity of the disease. In the acute phase, the picture can be that of any acute intra-abdominal inflammatory condition with pain, fever, nausea and vomiting, diarrhea, leucocytosis, etc. In chronic stages the picture is predominantly that of any other obstructing lesion with constipation sometimes alternating with diarrhea, cramps, etc. Abscess and fistula formation are occasional late complications.

Diagnosis:

In the acute stage it is extremely difficult to tell this condition from some of the more common acute intra-abdominal conditions, most of which require laparotomy. However, most cases of non-specific inflammatory tumors progress to the chronic stage without having gone through very dramatic acute or subacute episodes.

In the more common chronic stage, routine history, physical examination and routine laboratory work plus a digital examination of the rectum, sigmoidoscopic examination and roentgenology after barium enema will usually lead one to suspect and then to localize a lesion. On abdominal examination a palpable mass is often present. After the lesion has been localized, if biopsy proves that it is not a neoplasm, then an inflammatory tumor should be suspected. Any lesion which cannot be biopsied must be considered a malignancy until proven otherwise. To be thorough, one should perform a Frei test or complement fixation test for lymphogranuloma. The stools should be examined for amebae, fungi, and tubercle bacilli. In the great majority of cases an inflammatory tumor

is not suspected and the patient is assumed to have a neoplastic lesion, or his or her mass is often thought to be non-intestinal in origin. The inflammatory tumors associated with diverticulitis can often correctly be excluded, since so many of these patients have previously been known to have had diverticulosis, and diverticulitis.

F. G. Ralphs⁶ aptly summarized the situation when he stated, "A differential diagnosis from malignant disease or the specific inflammations causing intestinal 'tumor' is hardly possible before exploration, and actually is rarely made at operation. Usually histological examination of the resected mass furnishes the first clear evidence of its nature".

Treatment:

If the acute stage of an inflammatory tumor of the colon is recognized without operation the treatment is medical. Where an acute segmental lesion is encountered at operation the treatment of choice is to do nothing or at most a colostomy proximal to the pathologic bowel. Ralphs⁶ refers to cases discovered at operation where no definite surgical treatment was performed and where the masses subsequently disappeared. As stated earlier, most of these patients are first seen after the disease has progressed to a chronic stage where intestinal obstruction is more or less complete. The best treatment here is resection if the presence of abscesses or other complications does not contraindicate it. A colostomy proximal to the diseased segment of bowel may be the initial procedure of choice when complications are present, and also it may prove curative. A modified Mikulicz resection is the safest type of resection when the disease process is not sharply demarcated or when the mesentery is badly involved.

The following four cases were handled by Dr. R. C. Siersema, Dr. William R. Hill, and myself, and are briefly presented as cases of non-specific inflammatory tumors of the sigmoid.

Case I: Mrs. W.K. was a 27 year old multipara who was admitted to Grace Hospital on 2/11/48 with a chief complaint of "vaginal bleeding and pain in the stomach" of three weeks duration. This episode had begun two weeks after the cessation of her previous menstrual period. The pain had been of a cramping nature, was located in the left lower quadrant, and had begun two days before the onset of bleeding. Her bowel habits were not unusual.

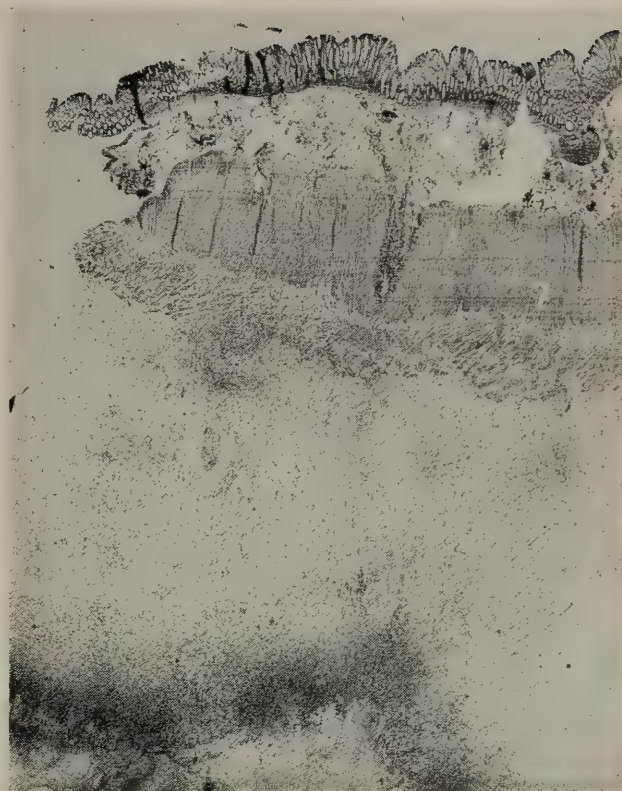


Fig. I—From case I. Demonstrates a chronic granuloma involving the serosal side of the bowel.

Her past history revealed that in 1940 she had undergone left oophorectomy, resection of a cyst from the right ovary, and appendectomy. On 9/2/47 she had a D&C, "cautery puncture" of a recurrent cyst of the right ovary, and a cholecystectomy. She was well up until the onset of the present illness.

Physical examination on admission revealed her temperature to be 99.5, pulse 120, and respiration 22. She was a moderately obese young woman in no acute distress. There was tenderness over the lower abdomen, more marked in the LLQ. Pelvic exam revealed a tender fixed mass in the left side of the pelvis. A moderately severe secondary anemia and mild leucocytosis were present. Serology was negative for syphilis.

A presumptive diagnosis of ectopic pregnancy was made on 2/12/48. A D&C was performed and the abdomen explored through a left rectus incision. A hard well circumscribed mass was encountered in the mid-sigmoid. This was firmly attached to the lateral pelvic wall and was dissected free with difficulty. No diverticula were demonstrated. A biopsy was taken from an adjacent mesenteric mass but frozen section diagnosis was inconclusive. The operative note states, "after dissecting up the sigmoid

colon it was impossible to determine the pathology present but malignancy could not be ruled out". A modified Mikulicz resection was performed and after the second stage closure of the double-barreled colostomy, she made an uneventful recovery and has remained well.

Dr. J. H. Scherer's pathology report described "A four inch length of intestine with a firm, hard, yellowish mass under the mucosa". Microscopically, "A number of sections from the intestine show the mucosa intact. There is a chronic granulation tissue over the serosal layer and in the submucosa in a number of sections, with a mixed cell infiltration in these areas. There is no suggestion of tumor and the appearance is like that seen in the stomach frequently where there has been an older ulcer".

A barium enema examination on 8/5/48 showed that the colon filled readily throughout. There was a marked redundancy of the left side of the colon but no organic pathology could be demonstrated.



Fig. II—From case II. Shows a submucosal area of organizing edema and early granuloma formation.

Case II: Mrs. L.M. was a fifty-three year old multipara who was admitted to Grace Hospital on 4/7/49. Her chief complaint was "dull aching pain

along the left side of the abdomen". This had been present for one and one-half years and for the past two months she had been progressively more constipated, having bowel movements only after taking laxatives. There was no blood or mucus in the stools. Her past history revealed that thirty-two years before she had had a suspension and appendectomy. In 1936 she was given a small dose of intrauterine radium for menopausal menorrhagia. In 1947 her gallbladder was removed. On 8/26/48 a diagnostic D&C was performed because of vaginal bleeding. This diagnosis was hyperplasia of the endometrium and another short course of radium was given.

Physical examination on admission revealed a slightly obese middle-aged woman in moderate discomfort. Her TPR were normal. The abdomen was tender all over, more marked in the LLQ. Pressure on the abdomen caused such pain that deep palpation was impossible. Pelvic exam was negative. Laboratory work was not remarkable. Serology was negative. On barium enema on 4/11/49 the colon filled readily throughout. In the sigmoid about twelve inches above the anus there was a deformity. Its appearance was not characteristic of carcinoma, but was suspicious. This examination was repeated several days later and there was still a constant deformity present.

On 4/19/49 under general anesthesia she was explored through a left rectus incision. At operation a three inch inflammatory mass was encountered in the sigmoid. No diverticula were present. The mass was resected along with about eight inches of bowel and an end-to-end anastomosis was performed. This patient had a very stormy postoperative course and developed a fecal fistula which closed slowly following a cecostomy on 5/27/49.

Dr. Scherer reported a twelve cm. length of intestine showing a firm indurated bowel about a punched out one and one-half cm. ulcer. Microscopically, "Several sections from the sigmoid show a punched out ulcer with a necrotic base and a thickened and edematous wall in which there is a mixed cell infiltration including a number of plasma cells and eosinophils".

She has been in reasonably good health since leaving the hospital. On 3/20/50 a barium enema was negative, although in the sigmoid there was an area of about one inch over which the lumen of the bowel

was somewhat constructed. She has continued to have vague pains in the left lower quadrant of the abdomen.

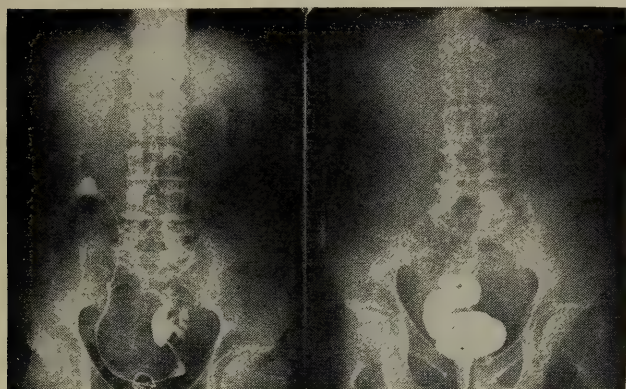


Fig. III—From case III. Is included to show a typical barium enema in a badly obstructing granuloma. The pyelogram of this case is presented to show the proximity of the pelvic kidney to the level of obstruction in the bowel.

Case III: Mr. R.D. was a sixty-two year old man who was admitted to Grace Hospital on 8/14/49 for investigation of genito-urinary symptoms and pain in the perineum and lower abdomen. He was seen by us at the request of Dr. T. B. Washington after Dr. Washington had completed a G-U workup including cystography and pyelograms which revealed nothing out of the ordinary except a pelvic kidney on the left side. His history revealed that in addition to G-U symptoms, he had also been having a mucoïd type diarrhea for about three weeks. His temperature was 100.4 and leucocytosis was present.

Lab. work was otherwise negative. Serology was negative. Rectal examination revealed a firm tender mass just above the prostate and seemingly outside the lumen of the bowel. Sigmoidoscopic exam. on 8/19/49 revealed no lesion although the scope met an impassable obstruction at the eight inch bowel. Barium enema on the same day was unusual in that it was possible to fill the bowel only as far as the recto-sigmoid where the barium in the colon appeared to have a very ragged outline suggesting the possibility of a severe spasm or a fungating growth. His past history revealed that on two occasions about ten years ago he had had prostatic stones removed cystoscopically.

Various diagnoses were entertained, including carcinoma of the sigmoid, kidney tumor, prostatic abscess, and diverticulitis with abscess formation. On 8/20/49 under spinal anesthesia he was explored through a left paramedian incision. An inflamma-

tory mass was discovered in the sigmoid several inches above the pelvic peritoneal diaphragm. Beneath this mass there was a small abscess. The mass was resected including ten cm. of bowel and an end-to-end anastomosis was performed. An appendicostomy was made and a small cigarette drain was brought out through a left inguinal stab wound from the area of the abscess. His postoperative course was uneventful and he was discharged in two weeks.

Pathologically, the bowel showed a ten cm. length of sigmoid with a central greatly thickened area. The mucosa was intact. Microscopically, there was granulation tissue in the submucosa and over the serosal coat. No tumor was seen.

He has remained in good health.

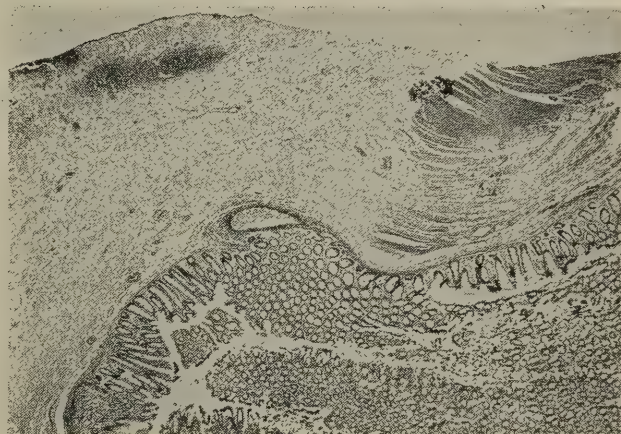


Fig. IV—From case IV. Illustrates a submucosal granuloma at a point where it meets and infiltrates adjoining submucosa and muscularis.

Case IV: Mrs. H.H. was a sixty-eight year old nulliparous woman who was admitted to Grace Hospital on 4/1/49. For months she had been complaining of severe constipation and for a long time she had been living on a liquid diet. For three weeks prior to admission she had been having sharp cramping pains in the left side of the abdomen. She had no diarrhea, or blood or mucus in the stools. Her past history revealed that nine years previously she had had a supravaginal hysterectomy, right salpingo-oophorectomy, and appendectomy for fibroids of the uterus.

On admission her temperature was 100.4. She was emaciated, pale and extremely apprehensive. An anemia and a mild leucocytosis were present. Serology was negative. On abdominal examination there was considerable tenderness and an easily palpable mass in the LLQ. Pelvic and proctoscopic

exam. were unsatisfactory and she was unable to retain the barium when a barium enema was attempted.

The most likely diagnosis was carcinoma of the colon. An ovarian neoplasm was also considered. On 4/4/49 she was explored under spinal anesthesia. A bound-down, lemon-sized, mass was discovered in the mid-sigmoid. This was resected by a modified Mikulicz technique. She made an uneventful recovery after the colostomy was closed.

Microscopically the bowel showed a marked chronic inflammatory process, chiefly involving the serosa but to some extent the submucosa of the colon. This was characterized by chronic granulation tissue, greatly thickening the wall of the bowel.

When last seen she had no complaints referable to the colon.

SUMMARY

Four cases of granulomata of the sigmoid colon have been presented. Although no cultures were made, these cases are presumed to represent non-specific inflammatory lesions because of their localized nature and because histologically they do not suggest any of the conditions having a specific etiology. They were not a result of diverticulitis, the commonest localized inflammatory condition of the sigmoid, since no diverticuli were demonstrable at operation or by the pathologist. It is possible that these cases are a localized variant of idiopathic ulcerative colitis although a mucosal ulcer was discernible in only one case. The fact that all four of these patients had

had, either recently or remotely, surgical procedures in the pelvic region suggests the possibility that in some way the surgery, or the conditions for which surgery was performed, may have been connected with the development of the lesions described. In Case II, the bowel granuloma was possibly a result of the two previous courses of intrauterine radium. As in most of the cases of this condition reported in the literature, the final diagnosis in our cases was made either at operation or by the pathologist.

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HEMOPHILIA WITH TWO CIRCULATING ANTICOAGULANTS— Clinical and Experimental Study*

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The introduction to most recent papers dealing with hemophilia is quite characteristic—the authors mention the recent advances in understanding the cause of hemophilia. The situation is really encouraging because the problem of hemophilia is becoming more interesting with each development in clotting theory, with each new variation of known tests and with each newly developed test.

We realize that the basic defect in hemophilia—the lack of antihemophilic globulin—is not *per se* a sufficient explanation of bleeding episodes during the life of a hemophiliac. There must be some periodic fluctuation of other agents responsible for the fact that an identical trauma will cause bleeding in a hemophiliac during one period of time and will be without detrimental effects at another time.

We believe that these unknown agents are of utmost importance because by preventing them or by their neutralization, we may keep hemophiliacs from bleeding regardless of their basic deficiency in antihemophilic globulin. The detrimental effects of these agents are probably due to anticoagulant properties. One of these potential anticoagulants may be of an antibody nature, as has been shown in some cases. Others may be connected with the presence of one or more anticoagulants, as occurred in our case. There are eight cases reported in the literature^{2,5,9} in which hemophiliacs were shown to have a circulating anticoagulant. In some of these cases studied very thoroughly by the investigators, the circulating anticoagulant was shown to be an antibody against antihemophilic globulin. It was separated electro-phoretically in one of the globulin fractions and its physico-chemical properties were studied^{7,8}.

We present a case of an 11 year old Negro boy with

a so-called sporadic hemophilia without family history. During the investigation we found two different types of anticoagulant present in his plasma. One—the heparin-like type which reacted favorably to a single course of therapy with protamine sulfate, and the other—an antibody against antihemophilic globulin demonstrated after neutralization of the first anticoagulant. The anticoagulant of the antibody type was demonstrated *in vitro* and its ability to neutralize the antigen (in this case the antihemophilic globulin) was shown repeatedly to be constant during the time of observation. We consider this case worthy of reporting since it shows that after making an unequivocal diagnosis of hemophilia, one may find an additional disturbance of blood clotting mechanism which may contribute to a bleeding episode in the patient.

The patient was first admitted to this hospital on the Orthopedic Service on August 19, 1949, with the complaint of a painful right thigh and knee joint following a fall while playing. His past history revealed a bleeding tendency present since infancy. He was hospitalized at the age of 7 years because of nose bleeds and a swollen painful right knee joint. At this time he received his first transfusion of whole blood. Since that time he had recurring bouts of epistaxis and joint and muscle swellings following mild trauma. A rather detailed family history revealed no bleeding tendency in any brothers, maternal uncles or maternal great uncles. His maternal grandmother died of tuberculosis.

The positive physical findings were that of a thin pale colored male with a swollen warm indurated area approximately 9 c.m. in diameter in the anterior lateral right thigh muscles and a swollen tender right knee joint with a flexion contracture of 160 degrees. X-rays of the knee joint revealed a slight narrowing of the joint space and chest film showed a healed Ghon complex in the right lung. The O.T. skin

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test was strongly positive, 1:1000. The sickle cell preparation showed no sickling at 24 hours. Capillary fragility test was attempted but could not be evaluated because of the dark pigmentation of the patient's skin. The laboratory studies were within normal limits except for the blood studies presented in Table I. The diagnoses were: hemophilia with hematoma of the right thigh, hemarthrosis of the right knee with a contracture ankylosis and secondary anemia. The patient was treated with multiple correction casts for the flexion deformity of the right knee. Two 500 cc. whole blood transfusions were given. He was discharged on October 3, 1949.

Following this episode, the patient was readmitted to our hospital four additional times for further studies and evaluation. On each admission he gave a history of recurring epistaxis, muscle and soft tissue hematomas, and hemarthrosis following mild trauma but no hematuria, hematemesis or melena. On each admission he had a normocytic normochromic anemia with a bleeding tendency which was treated with five 200 cc. whole blood transfusions and 200 cc. of plasma.

Upon the third admission to the hospital, the patient was found to have, along with the usual prolonged clotting time (1 hr. 10 min.), a constantly high heparin level of 12 gamma per cc. There was also a second circulating anticoagulant. Because of the abnormally high heparin level, the patient was given 210 mg. of protamine sulfate intravenously over a five day period in daily doses varying from 30 to 50 mg. By the third day of therapy, the heparin level had dropped to 3.3 gamma per cc. and two days after this therapy had been completed, the heparin level was zero. During the remainder of this hospital stay, no heparin was detected in the patient's blood but the coagulation time remained prolonged. Also, the second circulating anticoagulant could still be demonstrated.

On the subsequent hospitalizations, two and four months later, the heparin level was still zero. During the latter two admissions, the patient received no protamine sulfate, plasma or whole blood. Further studies were done revealing the presence of anti-hemophilic globulin antibodies which will be discussed below. Only fully compatible blood was used in all the studies reported.

During the first two admissions to the hospital the patient was treated with blood transfusions be-

cause of anemia and bleeding. At that time his hemoglobin values and number of red cells were low, reticulocytes high, white blood cells high (up to 16,800) and the platelets were within normal limits. After treatment with protamine sulfate, the bleeding stopped and his hemoglobin and red blood cell count rose to normal. Reticulocytes decreased to 1%, white blood cells decreased to normal. Platelets did not show any change. We studied the clumpiness of platelets as suggested by E. O. Hirsch, J. Favre-Gilly and W. Dameshek³, and noticed no deviations from normal. Fibrinogen levels were determined before treatment with protamine sulfate while the heparin was elevated, and twice after the treatment. The changes in fibrinogen level were not significant. Bleeding time was done by the Duke method and was always within normal limits. It was not changed by blood transfusions or injections of protamine sulfate. Clotting time was prolonged. Unfortunately it was determined on the first admission with the capillary tube method which is known to be inaccurate. All other values were obtained with the Lee-White method. Variations were quite extensive, ranging from 70 up to 250 minutes. These variations could not be correlated with the degree of bleeding or with treatment. Clot retraction was determined in the tubes used for testing the clotting time with Lee-White method. Therefore, it may differ slightly from the standard method, being shorter than the clot retraction determined with a method when the tubes are not tilted. The clot retraction was 2 hours on the second admission and increased up to 24 hours at the time when the heparin level was high and the patient was in a bleeding period. The clotting time remained prolonged. The prothrombin time expressed as per cent of normal concentration was done by the one-stage method of Quick. Considering 50-100% of concentration as normal, we found no abnormality. Prothrombin consumption was determined by Quick's method. The test as described originally, was supposed to always be negative in cases of hemophilia; however, Quick⁴ states that some mild cases of hemophilia may exhibit partial consumption of prothrombin. Our case showed no consumption during the period when his heparin level was high. Immediately following treatment with protamine sulfate, the prothrombin consumption increased to 75%. This test was repeated twice. On later admissions his prothrombin con-

sumption was again zero. In another case of hyperheparinemia, we observed a decrease of prothrombin consumption which was restored to normal after removal of the circulating anticoagulant. We consider the possibility that in a case such as the one reported in this paper, prothrombin consumption may be influenced by the presence of another anticoagulant responsible for one of the bleeding episodes.

Heparin level was determined by the method published by LeRoy and Halpern.¹ We used this method in our experimental work and checked the recovery of heparin added to normal blood. We obtained a recovery close to 100% in levels of 5 gamma/cc. and above. Because of the dilutions of protamine sulfate used for neutralization of heparin, this method is in our opinion not sensitive enough to detect heparin levels below 5 gamma/cc.

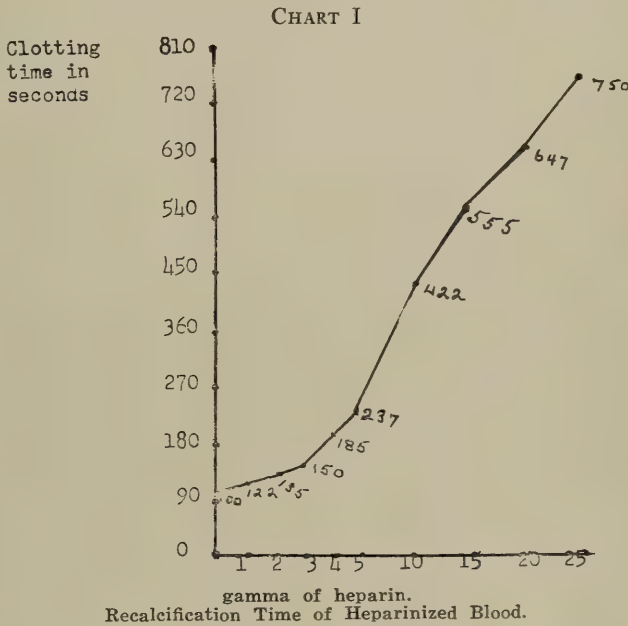
As can be seen from Table I, we obtained consistently high levels of heparin during the third admission of the patient. After treatment with protamine sulfate, the level returned to normal. From our experience with other cases of hyperheparinemia, we observed that the heparin level stays within normal limits for months after it is brought to normal with adequate treatment. Since we do not know the cause of hyperheparinemia, it is impossible to explain this long remission.

Test for circulating anticoagulant was made with estimation of the modification of Quick's method used by Frommeyer and others.² It is based on clotting time of recalcified plasma, using a mixture of normal and patient's oxalated plasma in varying proportions. The first figure shown in Chart I is the clotting time of recalcified normal plasma; the other is the recalcification time of patient's plasma. During the period when the patient's plasma contained 10-12 gamma/cc. of heparin, his recalcification time was 480 seconds. When his heparin level dropped to normal after treatment with protamine sulfate, the recalcification time of the plasma was 130 seconds and stayed around 180-192 seconds during subsequent admissions.

Before treatment with protamine sulfate, the patient had two circulating anticoagulants and showed a prolonged recalcification time. By the protamine sulfate therapy, we removed one circulating anticoagulant of the heparin-type and the recalcification time dropped almost to normal. These results in-

dicate that the circulating anticoagulant of the antibody type which was shown to be present has no—or very little—influence on the recalcification time of oxalated plasma. The recalcification time is influenced by the heparin-type anticoagulant only.

In order to evaluate the influence of concentration of heparin on recalcification time of oxalated plasma, known amounts of heparin were added to blood and plasma. The recovery of heparin was almost 100% in these samples and we were able to draw a curve of recalcification time which shows its direct relationship to the heparin concentrations. We used this curve on known and unknown concentrations of heparin. However, as is well known, this direct relationship does not apply to thrombocytopenic blood.



After the heparin-like anticoagulant was removed by treatment with protamine sulfate, we tried to determine some characteristics of the antibody type anticoagulant. The following table II shows the

TABLE II

Normal Blood	Hemophilic plasma	Normal saline	Patient's plasma	Clotting time
1.0	0.5			Not clotted in 24 hrs.
1.0				5½ min.
1.0		0.5	0.5	Not clotted in 24 hrs.
1.0			0.4	Not clotted in 24 hrs.
1.0			0.3	Not clotted in 24 hrs.
1.0			0.2	6 min.
1.0			0.1	6¼ min.
1.0				6¼ min.

Admissions

TABLE I

	Date	RBC	Hgb	WBC	Platelet	Retic	Heparin	Bleeding Time
I	8-20-40	2,200,000	7.0 gms.	14,200				
	8-26-49				690,000	1.2%		2 min.
	8-31-49							2½ min.
	9-6-49							2 min.
	9-7-49							1 min.
	9-23-49							
	9-26-49							
II	2-17-50				300,000			4½ min.
	2-21-50	1,490,000	4.8 gms.	16,600				30 sec.
	3-1-50				327,800			3 min.
	4-11-50							5 min.
	4-28-50							
III	10-31-50	3,110,000	8.8 gms.	16,800	404,000		10 gam.	
	11-16-50	2,510,000	7.6 gms.	4,750	406,420		12 gam.	
	11-28-50	3,070,000			423,660		12 gam.	
	11-29-50	3,540,000			371,700		12 gam.	
	11-30-50						12 gam.	
	11-31-50						3.3 gam.	
	12-4-50						0 gam.	
	12-5-50						0 gam.	1 min.
	12-6-7-50						0 gam	
	12-8-50	2,440,000			351,363		1.5 gam.	1½ min.
	12-11-50	3,150,000			589,050			2½ min.
	12-12-50	3,000,000	8.2 gms.	5,800	396,000		8 gam.	
	12-14-50	3,200,000			352,000			
	12-15-50	2,690,000			435,180		3.3 gam.	2 min.
	12-16-50	2,940,000			323,400		0 gam.	
	12-18-50	3,260,000			406,400		0 gam.	
	12-19-50	3,360,000			435,000			3½ min.
	1-4-51	3,380,000	8.1 gms.	5,100	576,400			4 min.
	1-10-51							
IV	3-15-51							
	3-20-51	4,670,000	10.8 gms.	5,600	524,000		0 gam	4 min.
	3-21-51			Special Test			Effect of AHG in Vitro	
	4-2-51							
V	5-4-51		14.4 gms.					

Clotting Time	Clot Re-traction	Prothrombin	Prothrombin Consumption	Recalcification time of oxalated plasma in sec.	Fibrinogen	Hematocrit	Treatment
21 min. (cap)							
23 min. (cap)	45 min.	75%					
12 min. (cap)							500 cc. whole blood
4 min. (cap)	10 min.	50%					
no clot							
16 min.							
1 hr. 40 min. (LW)							
10½ min. (cap)	2 hrs.						600 cc. whole blood
8 min. (cap)		43%					
49 min. (cap)		100%					
					270 mg.%		
		50%					
Over 2 hrs. (LW)	Poor at						
Less than 17	24 hrs.		0	105-480			
2 hrs. 10 min. (LW)							
2 hrs. 15 min. (LW)							210 mgs. Protamine
							Sulfate I V
							11-29-50 to
							12-2-50
70 min. (LW)	2 hrs. 50 min.	75%		90-130			
2 hrs. 10 min.	2 hrs. 38 min.						
1 hr. 15 min.	4 hrs. 50 min.				140 mg.%		
1 hr. 40 min.	2 hrs. 45 min.						
3 hrs. 10 min.							
2 hrs. 40 min.							
2 hrs. 35 min.	3 hrs. 30 min.						
2 hrs. 25 min.	4 hrs. 50 min.						
4 hrs. 30 min.	6 hrs.	75%					
2 hrs. 15 min.			0				
					280 mg.%		
2 hrs. 40 min.	24 hrs.	75%	0	110-292		39.5%	
Antithrombin Titration, Antithromboplastin Titration				90-180			

action of the patient's plasma on normal blood as compared with the action of plasma of another hemophiliac and with saline.

The results of this test indicate that 0.2 cc. of patient's plasma added to 1 cc. of normal blood does not change the clotting time of the mixture. However, 0.3 cc. of patient's plasma prevents the clotting of 1 cc. of normal blood. This test shows the potency of the anticoagulant present in patient's blood. Because some reports in the literature indicate the presence of an antithromboplastic activity in hemophilic plasma⁶, we tested the patient's plasma for such an activity. If the anticoagulant were of an antithromboplastic nature, we would expect that after thromboplastin in decreasing concentrations was added to the patient's and to normal plasma, the normal plasma would show a gradual prolongation of clotting time with the more diluted thromboplastin. On the contrary, the patient's plasma would give the shortest clotting time with the amount of thromboplastin adequate for clotting of patient's plasma and neutralization of antithromboplastin. This concentration of thromboplastin would be higher than the one which would give the shortest clotting time with normal plasma. As can be seen from the following table, this result was not

addition of thrombin as did the two normal plasmas. The absence of antithrombic activity of the patient's plasma could be expected after the heparin-like anticoagulant was neutralized. The mere fact that the conversion of patient's fibronogen into fibrin was completed within the normal time suggested also an absence of substances interfering with the third equation of blood clotting scheme, that is: Fibrinogen + Thrombin = Fibrin. Because of the fact that prothrombin concentration was normal during the entire period of study of this patient, we have no basis for postulating the existence of an anti-prothrombic agent.

A large part of our planned study depended on the use of antihemophilic globulin which was difficult to obtain. Thanks to Dr. L. K. Diamond, we obtained enough of this globulin to carry out our studies. To begin with, we consider that any diagnosis of hemophilia should be certified by a test showing that antihemophilic globulin will bring the clotting time of the blood under study to normal¹². This test was performed on the blood of our patient and the results reported in Table V demonstrate this principle clearly.

After we demonstrated that antihemophilic globulin brought the clotting time of patient's blood to

TABLE III
CLOTTING TIME OF PATIENT'S AND NORMAL PLASMA EXPRESSED IN SECONDS

Thromboplastin sol.	Undiluted	1:200	1:500	1:800	1:1000	1:2000	1:4000	1:8000
Patient W.B. ---	19	18	22.5	24	22	31	33	35
Control No. 1 --	21	22	24.5	28	31	33	35	50
Control No. 2 --	21	21.5	22	26.5	28	30	35	45

obtained with the patient's plasma, suggesting therefore that there was not sufficient antithromboplastic activity to be detected by the methods we used²¹ and to give an anticoagulant effect.

Antithrombic activity was found by Singer²¹ in one case and therefore we examined the patient's plasma for such an activity.

Patient's plasma clotted in this same time after

TABLE IV

CLOTTING TIME IN SECONDS							
Thrombin units in 0.1 cc.	5	4	2	1	.5	.25	.125
Patient's plasma.	4.5	5	5	7	13	27	30
Control No. 1----	4.5	5	6.5	9	14	28	29
Control No. 2----	4.5	5	6	8	12	26	31

normal, we investigated his plasma for antibodies against antihemophilic globulin which were probably built up as a result of previous transfusions. Eight cases of hemophilia with this type of anticoagulant are described in the literature^{7,2}.

TABLE V

Patient's blood	Normal blood	Normal Saline	Antihemophilic Globulin 400 mg%	Clotting time in minutes
	1.0			8
	1.0	0.5		10
	1.0		.5	7
1.0				180
1.0		0.5		120
1.0			.5	11

Our case is the ninth instance in which this test was shown to be positive. The method used was described by J. H. Hawks¹⁰. We dissolved the antihemophilic globulin in a gelatin base in serial dilutions and tested with serial dilutions of patient's plasma for the presence of precipitation occurring between the gelatin solution of antihemophilic globulin and over laying plasma. In order to evaluate properly the results of this test, we examined the patient's plasma simultaneously with normal plasma, plasma from a case of hemophilia with a family history, and a case of hyperheparinemia (to be published). Neither normal plasma nor plasma from a case of hyperheparinemia showed any precipitation. The results of these tests are given in the following two Tables.

TABLE VI, a & b
CASE OF HEMOPHILIA WITH A FAMILY HISTORY

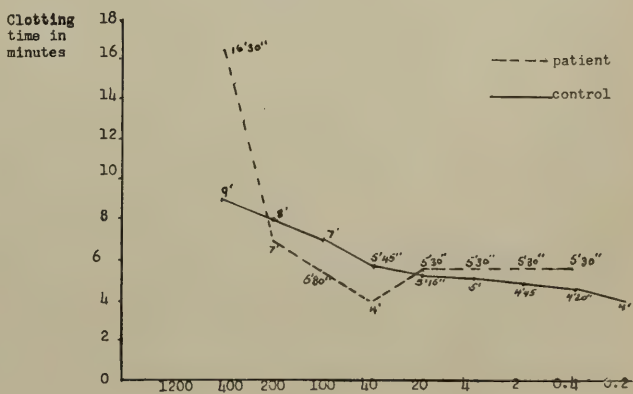
Antihemophilic Globulin Mg%	1200	400	40	4	.4	0
Plasma Dilutions						
Undiluted	0	0	0	0	0	0
1:10	0	0	±	0	0	0
1:100	0	0	+	+	+	0
1:1000	0	0	±	+	+	0
Saline	0	0	0	0	0	0

Patient W. B. under study						
Antihemophilic Globulin Mg%						
Plasma Dilutions						
Undiluted	0	0	0	0	0	0
1:10	0	+	+	+	±	0
1:100	0	+	+	+	+	0
1:1000	0	±	+	+	+	0
Saline	0	0	0	0	0	0

On the basis of these results we can state that the test is specific for the presence of antibodies against antihemophilic globulin. Normal plasma or plasma from a case of hyperheparinemia clinically simulating hemophilia do not produce precipitations in any of the dilutions. A known case of hemophilia with a family history but not in a bleeding period shows precipitation mainly in a dilution of plasma 1:100 with added antihemophilic globulin in the concentrations of 40, 4, and 0.4mg%. The patient under study shows precipitation of plasma dilutions of 1:10, 1:100 and 1:1000 with antihemophilic globulin in concentrations of 400, 40, 4 and 0.4mg%. The strongest precipitation was seen when plasma was diluted 1:100.

After we determined by these tests that the patient's plasma contained an anticoagulant which was shown to be of an antibody type, we proceeded in this same direction and made an attempt to neutralize these antibodies by way of incubation with antihemophilic globulin. This was done in a qualitative manner by Lawrence and Johnson¹¹, and Craddock and Lawrence⁷, by incubating the patient's serum with antihemophilic globulin in increasing dilutions. They observed that the antihemophilic globulin lost its accelerating activity on the clotting of hemophiliac blood after incubation with this blood for 30 minutes at 37.5°. Our quantitative modification is extremely simple and easy to perform. The only reagent needed is the antihemophilic globulin. Our preparation consisted of Cohn's Fraction I. We do not know the quantitative relationship of fibrinogen and active hemophilic globulin in this preparation. However, this should not decrease the dependability of the test because Craddock and Lawrence⁷ showed that antibodies against antihemophilic globulin do not react with pure fibrinogen or pure gamma globulin, but only with antihemophilic globulin. We performed our test on normal and patient's native plasmas diluted with saline in a ratio 1:10. Of these plasmas, 0.1 cc. was added to 0.1 cc. of different dilutions of antihemophilic globulin in saline, incubated for 15 minutes at 37° and 1 cc. of whole blood of the same group as the tested plasma was added. The clotting time of this mixture was then determined. The following table and chart depict the results. These determinations were repeated five times on normal and patient's plasma and the values represent the average readings. However, the trend of these two curves was constant in all determinations.

CHART II.



DISCUSSION

The theoretical understanding of the causative factors of hemophilia are of great practical importance because the treatment is based on these theories. Quick and his group²² consider hemophilia to be a result of a defect in platelets which fail

ports the opinion that transfusions and substitution of the defect by normal blood is not a solution to the problem of therapy of hemophilia. On the contrary, it starts a vicious circle of stimulation of production of antibodies against the antihemophilic globulin which is actually a foreign protein for the hemo-

TABLE VII

Antihemophilic Globulin mg%	1200	400	200	40	20	4	2	.4	.2
Normal plasma	incoagul.	9 min.	8'	5'45"	5'30"	5'	4'45"	4'30"	4'
Patient's plasma	incoagul.	16'30"	7'	4'	5'30"	5'30"	5'30"	5'30"	

Mgs% of Antihemophilic Globulin.

to break down and release thromboplastin. Craddock and Lawrence⁷ and Frommeyer *et al.*² consider hemophilia a disease connected with a congenital defect in blood plasma, namely, in absence of antihemophilic globulin. This defect may be complete or partial. Other theories include that of Munro and Jones¹⁹, increased antithromboplastinogen, Brinkhous²⁰, absence of thrombocytolysin, and Tocantins⁶, an excessive amount of antithromboplastin.

Our evidence supports the presumption, expressed by Dreskin and Rosenthal⁹, that the antihemophilic globulin and platelets form thromboplastin, or it may be that the antihemophilic globulin is needed for the breakdown of platelets. This presumption would be a logical result of two known facts, that hemophiliacs lack this globulin and that addition of platelets reduces the clotting time of hemophilic blood²³. This view could be supported by experiments in which antihemophilic globulin would be removed from normal blood and the platelets observed. This, however, is not possible. A reverse experiment has been performed innumerable times by adding antihemophilic globulin to hemophilic blood *in vivo* and *in vitro* and has resulted in bringing the coagulation of this blood or plasma to normal, except in cases where there were antibodies against antihemophilic globulin.

Lozner and Taylor¹³ observed the interesting phenomenon that antihemophilic globulin or euglobulin prepared in glass vessels has a far more potent action on hemophilic blood than when it is prepared in non-wettable vessels such as collodion or paraffin. This introduces a possible physico-chemical influence of the vessel on the action of antihemophilic globulin on hemophiliac blood. The mounting number of hemophiliacs refractory to blood transfusions sup-

ports the opinion that transfusions and substitution of the defect by normal blood is not a solution to the problem of therapy of hemophilia. On the contrary, it starts a vicious circle of stimulation of production of antibodies against the antihemophilic globulin which is actually a foreign protein for the hemo-

philiac. These antibodies act as anticoagulants in a number of cases. The defect, of course, does not explain the well known fact that a hemophiliac has periods without bleeding tendency, when, at other times, he bleeds even without demonstrable trauma.

In view of these studies, we may consider the possibility that hemophiliacs should be followed over a long period of time with studies of the degree of their antihemophilic globulin deficiency as shown by Frommeyer, Epstein and Taylor², and presence of antibodies against antihemophilic globulin, including the estimation of their level. There is a possibility that periodic increases of antibodies against antihemophilic globulin or a decrease of the level of antihemophilic globulin itself may be correlated with these bleeding episodes. This finding, if proven, would change the method of therapy of hemophiliacs. Plasma would be used only in emergencies when cold and pressure would not stop the bleeding. Washed red blood cells would be used to substitute red blood cells lost during bleeding. We may look for ways of decreasing the level of antibodies against antihemophilic globulin. One non-specific method which may be considered is the temporary decrease of antibody production ability by the reticulo-endothelial system in general which would also influence the above antibodies. This was accomplished experimentally by many investigators (Hektoen, Jacobson and others²⁴) by irradiation of the spleen with large doses of x-ray. It could be that irradiation of a hemophiliac's spleen in the presence of a high titer of antibodies against antihemophilic globulin would help to decrease this titer and stop the bleeding episode in these patients. Of course, this possibility must

be studied thoroughly on dogs, the only other mammals known to have hemophilia. Another possibility is that refractory phases in hemophilia may be found only in patients with no antihemophilic globulin because one can produce antibodies only to "foreign" proteins. This may also explain why few hemophiliacs are found to be in refractory stage, in spite of the fact that almost all hemophiliacs receive transfusions of whole blood or plasma. The mild cases (Quick⁴) may have some amount of antihemophilic globulin and therefore produce no antibodies. However, the amount of antihemophilic globulin they possess is not sufficient to activate the liberation of platelet enzyme and cause normal coagulation time.

When whole blood or plasma is given to a hemophiliac, the antihemophilic globulin in this material combines with the antibodies present and a sufficient amount of antigen is left to neutralize the antibodies which are produced constantly at an increased rate as a result of the administration of blood or plasma. However, after a while (about 3 days later) the amount of antigen is used up by the produced antibodies and the production of antibodies is still going on at an increased rate. This causes a relapse with prolonged coagulation of blood and another bleeding period which can be overcome only by administering a larger amount of whole blood or plasma. In Dreskin and Rosenthal⁹, charts of 12 reported cases with a circulating anticoagulant, eight cases had sufficient evidence for presuming isoimmunization. Five of them were true hemophiliacs who developed an anticoagulant after previous blood transfusions and three were women with a circulating anticoagulant appearing shortly after parturition. The authors consider the possibility of Rh isoimmunization in these cases.

As to the treatment of cases of hemophilia with a circulating anticoagulant of the antihemophilic globulin antibody nature, it seems to us that plasma or whole blood transfusions could be justified only as life saving procedures because they increase the production of the antihemophilic globulin antibodies by introduction of additional amounts of antihemophilic globulin. The use of washed red blood cells as a means of substituting the lost red blood cells would be more consistent with the present understanding of the nature of this anticoagulant. One must also presume that a hemophiliac may have another anticoagulant, as is shown in our case of a heparin-like

substance which can be neutralized by administration of protamine sulfate. The neutralization of this anticoagulant in our case caused a clinical improvement in spite of the presence of hemophilia.

Unfortunately, we could not obtain the antihemophilic globulin and study the precipitin reaction and neutralization of antibodies in this patient before we injected protamine sulfate. However, on the basis of experience of other investigators, we may assume with certainty that he had antibodies against antihemophilic globulin before the treatment with protamine sulfate. In our own experience, a patient with hyperheparinemia with a negative test for precipitation of antihemophilic globulin, has had full treatment with protamine sulfate before this test was carried out. This would exclude a possibility that protamine sulfate could cause production of antibodies against antihemophilic globulin and positive precipitin and neutralization tests in our patient.

An increased level of heparin has been detected in blood of experimental animals and in patients by authors working in this field. Cronkite⁵ observed hemorrhagic manifestations in goats and swine exposed to ionizing radiation in the Bikini atomic explosion. However, in later experiments with x-ray irradiation he could not determine the circulating anticoagulant using the few available methods (personal communication).

J. G. Allen¹⁵ exposed dogs to x-ray irradiation and produced a high level of an anticoagulant of the heparin type which could be neutralized by protamine sulfate.

Conley and Hartman¹⁶ developed a method for determination of heparin observed after irradiation and nitrogen mustard therapy. Smith, Jacobson *et al.*¹⁷ found heparin present in humans and rabbits after nitrogen mustard therapy.

We have used the above described method of heparin determination for about a year and performed hundreds of determinations on experimental animals (rabbits—unpublished data) and on patients. We are under the impression that the increase in heparin level is seen in cases with involvement of the reticulo-endothelial system. Damage to the reticulo-endothelial system may be done experimentally by irradiation or by disease. We have found invariably high heparin levels after x-ray irradiation of rabbits, in patients with Gauchers' disease, leukemias, neoplasms, in some cases of menorrhagias

without known cause, and in a case of dysproteinemia²⁵.

We had the opportunity to use protamine sulfate in a few instances of hyperheparinemia and have observed that the therapeutic result has lasted for a period of months.

All the available information concerning the presence of heparin-like substances in blood and also our personal experience makes us think that one may expect hyperheparinemia in hemophilia too. It may be connected with the dysfunction of the reticulo-endothelial system as manifested by the deficient production of globulins, namely, antihemophilic globulin. Some of the cases reported in the literature as having an unknown circulating anticoagulant may have been caused by hyperheparinemia, as, for example, Lozner's¹⁸ case with a history of tbc., and tbc. bacilli found in the lymph nodes during the autopsy may well be a case of hyperheparinemia.

In conclusion, we may say that the fact that a patient is a proven hemophiliac should not satisfy any physician as far as explanation of bleeding periods in the patient are concerned. One must always determine all other blood coagulation factors in order to be certain that a concomitant deficiency of any other factor or an excess of anticoagulants of any nature is not present.

Our quantitative modification of this test can be used in the future for many phases of study of hemophilia. It expresses the potency of antibodies against antihemophilic globulin in terms of their ability to neutralize the antigen. This can serve in follow-up of hemophiliacs and evaluation of their refractoriness to blood transfusions due to a high level of antibodies against antihemophilic globulin. Results of this test may also throw some light on the possible relationship between the antihemophilic globulin antibody level and bleeding episodes during the life of a hemophiliac.

SUMMARY

A case of a young Negro boy with spontaneous hemophilia is presented. Clinical and experimental studies on hemophilia are centered around this case. It is shown that the patient had two circulating anticoagulants. One of these was of the heparin type and was found during a bleeding episode. It was neutralized by treatment with protamine

sulfate. In a later follow-up, another anticoagulant was found. This was of the antibody type against antihemophilic globulin. A quantitative modification of a test designed to evaluate the potency of this antibody is presented. The problem of the nature and treatment of hemophilia is discussed.

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DISCUSSION

DR. FORREST P. WHITE, Norfolk: This paper has been of special interest to me because I was on the Pediatric house staff at Medical College of Virginia hospital while Dr. Thagard, a co-author of the paper, was at Dooley Hospital. At the time this case was being studied, I was working with Dr. G. Watson James, III, on another case of hemorrhagic diathesis. Our work concerned a 19-month white male, with no definite history of familial bleeding, who had markedly prolonged bleeding and coagulation times and complete absence of clot retraction. After a rather extensive series of tests involving several patients and a normal control, we were at one time convinced that our patient did not have hemophilia but that the patient of Drs. Kupfer and Thagard did have it. They were equally convinced that their case was not hemophilic but that ours was.

By further studies we determined that our case actually did have the same coagulation defect characteristic of hemophilia. He also had some major associated defect, not apparently a circulating anticoagulant, which accounted for the defect in clot retraction. What this was we had not been able to determine when the child left the hospital.

It is with great interest that I learn that the patient discussed today was also found to have hemophilia with an associated defect. Dr. Kupfer and his associates are to be congratulated on working out this case in such fine and convincing detail. I believe they have made a significant contribution to the literature of diseases of blood coagulation. Certainly all of us who have heard of these two cases have gotten the feeling that hemophilia is an even more complicated disease than we had thought it to be.

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,

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Food Service in Virginia State Mental Hospitals.*

The food service department is concerned with the production and serving of well balanced, properly prepared, appetizing meals to approximately 13,000 patients in our seven hospitals, and to the more than 2,000 employees who are a part of the hospital organization. This total of 45,000 meals daily pinnacles into 16,425,000 meals for a year. Our budget provides 60 cents per patient per day for the purchase of food and this very meager sum grows into the rather substantial figure of \$2,847,000 which will be needed for food in the current year. This does not include the cost of food service personnel.

This activity involves: (1) planning the foundation menu and its variations, which must be done within the limited budget; (2) purchasing food in quantity; (3) having adequate facilities for its proper care and storage; (4) using tested methods in preparation and cooking; (5) solving the problem of getting hot and cold foods to the patient as near the ideal temperatures and textures as possible; (6) placing before the patient a meal so attractive in its eye appeal that there is no problem in inducing the patient to eat; (7) maintaining a high standard of sanitation in every activity of the food service department; (8) taking note of the fact that food preparation and its service can be of great therapeutic value to the patients.

The supervision of this varied program is carried on by the dietitians, food production managers or dietary unit supervisors, depending upon the type of supervision required in the specific departments. In view of the great shortage of trained dietitians, we are fortunate to have seven in our total organization and supervising in each hospital. We are in need of more dietitians, food production managers and supervisors. Since this shortage also carries over into the cook, baker, kitchen helper and dish washer categories, our supervisory personnel must fall back on inexperienced recruits and plan time

to do the necessary training which will convert these new employees into that meticulous baker, or the accurate vegetable cook so badly needed to make a kitchen function smoothly.

Less supervision would be needed if the dietitian could go to a reliable source and there obtain the trained cook or the salad maker who combines her materials into a colorful, artistic product that tastes good, or a porter who uses his tools to the best advantage.

We have high hopes that, in the not-too-distant future, high school graduates with a basic food service training will be available for employment in the hospital food services, through a vocational training program now being developed.

The purchasing of food for the State mental hospitals is concentrated in the offices of the hospital steward and the Division of Purchases, State Finance Building. The dietitian, however, has the opportunity to list her needs, consider new products and take advantage of special market prices through the cooperation of the purchasing personnel, as well as reject anything which she does not think is up to standard.

Staple foods are bought on a quarterly basis; meats and fish on a weekly basis; and perishable foods as needed. All purchases are made by the competitive bid system with the exception of the foods produced on the hospital farms. A nominal price schedule is set up for the purchase of these products by the Division of Purchases with several factors considered in arriving at the value of the products.

Since these farms are large, there is usually a surplus produced over and above the patients' immediate needs and plans must be made for preserving the surplus or using it at once. One of the hospitals has worked out a method to freeze these surpluses and last year 90,000 pounds of vegetables were frozen and later used to bolster holiday and special winter menus. This type of product is a great time saver at the busy season of the year when there is a greater scarcity of labor and increased activities. In addition, the cost is very low and the quality high.

*Article by Una S. Powell, B.S., Food Service Supervisor, State Department of Mental Hygiene and Hospitals.

In the purchasing and storage of foods we have an important key to the economical operation of a food service department through the control of waste. This can be done by observing the following regulations:

- (1) Purchase of good quality to begin with, supported by carefully drawn specifications.
- (2) Careful and conscientious inspection of the purchase and the stamping of all staples and perishables with both the date and the cost.
- (3) Proper storage of these purchases with respect to quality and quantity.
- (4) Control of nutrient loss in raw food storage of perishable fruits and vegetables through not overstocking the items.
- (5) Eliminating theft and even the temptation to theft by the liberal use of locks and keys, plus constant supervision.
- (6) Correct issuing of foods from the storeroom to the kitchen with the aid of signed requisitions and a store clerk trained to sort products *either* for ripeness or to issue the oldest item first.
- (7) Planning for the use of foods on hand before making new purchases.
- (8) Having all meats inspected for quality, legitimacy of cuts (based on U. S. Department of Agriculture standards), correct weight and fulfillment of specifications.

This is done under the U. S. Division of Marketing Meat Inspection Department and all meat purchased bears the stamp of inspection. The inspector also visits the hospital frequently, checking meats in the refrigerator to see for himself if the products stamped for purchase were delivered to the hospital refrigerator.

The amount of money appropriated for the purchase of food was increased at the last legislative session from 50 cents to 60 cents per patient per day for the next biennium, July 1, 1952, through June 30, 1954. With the inflationary spiral gradually creeping upwards, it is doubtful that this 60 cents will have the purchasing power of the 50 cents appropriated for the past 2 years.

However, it must provide food for the general hospital menu, a large number of special diets three times each day, the Fourth of July picnic for all the patients; turkey for the Thanksgiving dinner; refreshments for small-group activities and parties; a special Christmas dinner, and the birthday cakes.

All of these are important for they bring the home and family touch into institutional life. With today's cost of living 189% above the 1935-39 level, it will take careful planning to make our money pattern cover all these needs for the next two years.

In planning the general menu to fit within the limited budget, we build it around a basic ration of 3361 calories or 68.1 ounces of food, which we believe to be the amount of food necessary for the activity of the patient and the improvement of health. The menu is selected from the seven basic food groups which nutritionists have named "the design for better living". These basic food groups consist of:

- (1) Leafy and green vegetables
- (2) Meat, poultry, fish and eggs
- (3) Citrus fruits, tomatoes, raw cabbage
- (4) Other fruits and vegetables, including potatoes
- (5) Milk, cheese and milk products
- (6) Bread, flour, cereals
- (7) Butter, fortified margarine, cream

The following is a breakdown of the general menu to show the number of calories and ounces of food selected from each group to make the 3361 calories and 68.1 ounces of food for the basic ration.

	Ounces	Calories
Milk and milk products		
(fresh, evaporated, powdered, ice cream)	16.0	330
Potatoes (sweet and white)	6.0	209
Dry Bean, peas & nuts	1.0	145
Citrus fruits & tomatoes	5.0	39
Green and yellow vegetables	10.0	98
Other fruits	6.0	155
Eggs (shell, frozen, dried)	1.6	79
Lean meat, fish, poultry	8.0	581
Cheese	0.5	60
Flour, cereal, cakes, crackers	10.0	1054
Butter and margarine	1.0	190
Fats (fat meat, lard)	1.0	216
Sugar	1.0	120
Syrups and sweets	1.0	85
Miscellaneous (coffee, tea, etc.)	—	—
	68.1	3361

There has been some criticism of the use of a basic ration, namely, that it does not allow enough elasticity for the menu making program. It does, however, serve as a measuring guide against which one can check the menus for a varied diet, calorie count and volume of food served. It is a special

protection in departments where there is no dietitian. A menu maker with imagination and a keen interest can provide varied menus with all the flavor, color and texture one could desire and have a basic ration in the background to work with. Basic rations should be scanned occasionally with a view to progressive changes.

The dietitian refers to the general menu written for a specific day and selects from it all the allowable foods for the special and corrective diets. This process lessens the number of preparations for a busy kitchen and saves time in planning. These special diets are served on doctors' orders and the dietitian gives time and real thought to them. She checks for:

- (1) Careful preparation of the food served
- (2) Good flavor and food texture
- (3) Pleasant color and food combinations
- (4) Food habits of the group she is planning for.
Social, religious and sectional customs are followed wherever possible
- (5) Likes and dislikes of patients

We have an additional serving problem of providing food for the aged patients of the hospital. This is a rather large group which must have ground foods and specially prepared foods to care for their needs.

Three years ago emphasis was placed on improving the food service department of our State Hospitals through the modernization of the preparation, cooking and serving areas. Plans were made for remodeling kitchens in several hospitals where it was feasible and for building new ones where the old ones would no longer serve the purpose. In this program the plan was made for modern, efficient kitchens; pleasant dining rooms, showing homelike touches and the introduction of modern cafeteria service to the ambulatory patients.

I would like to cite one new general kitchen in this program which produces food for approximately 1200 patients and 200 employees three times each day. An all-electric kitchen was installed. All stoves, baking ovens, etc., were equipped with temperature controls, because food cooked at the proper temperature for the correct period of time has an attractive appearance, better texture and superior flavor. After one week of operation in this new kitchen we found that the former eight cans of garbage were reduced to two cans per day because

the patients were eating all the food served to them. This was a very satisfying economy.

In a newly equipped bakery unit in this same kitchen we found we were using 1,300 pounds of bread flour less per week and baking more bread. This was due to the improved method of weighing and mixing the ingredients and baking the bread. As a result of this improved method, we have no loss in the slicing of the bread. There are only two end slices of each loaf left. At the end of the bread slicing operation the end slices are sent to the kitchen and chopped into fresh bread crumbs, ready for immediate use. We have calculated that this economy over a period of a year would approximate \$5,000.00 at the present market prices.

We have a new labor and time saving piece of equipment in the electric vegetable cutter we are using in this same kitchen which does three jobs at once, with only one person required to operate the machine. In 60 seconds it will produce one or three of the following products ready for use:

- 12 lbs. French fried potatoes
- 4 lbs. Shoestring potatoes
- 20 lbs. Potato chips
- 20 lbs. Chopped vegetables for soup
- 15 lbs. Cabbage slaw
- 8 lbs. Finely chopped vegetables
- 16 lbs. Coarsely chopped vegetables

Time saving pieces of equipment take the place of extra employees who are difficult to get and reflect in saved payroll dollars. In addition, this process of quickly handling these foods brings them to the table much fresher, uniformly prepared and assures a thorough, even cooking of the foods.

There is a need to justify the expenditure of funds for new equipment which, at the first glance, seems very expensive. One of the Midwest veterans hospitals made the following comparative studies before purchasing the above mentioned vegetable cutter.

Test No. 1—Cutting and dicing vegetables by hand as compared with the electric vegetable cutter. Potatoes, carrots and rutabagas were diced. It was found that this work could be accomplished by machine in 1/3 of the time required by hand labor.

Test No. 2—Preparing cabbage slaw (160 lbs. shredded) required 210 minutes by hand; 160 lbs. shredded required 70 minutes by machine.

Test No. 3—Fruits and vegetables prepared for one week. All fruits and vegetables diced, sliced

or shredded by hand required 84 man hours. The same amount prepared by machine required 28 man hours.

The saving in labor was \$49.00 per week and the hospital superintendent estimated that this savings alone would pay for the machine in 14 weeks time. The added advantages were:

(1) Strict uniformity of cutting, dicing, slicing and shredding of food materials.

(2) Improved appearance of the products.

(3) End result of obtaining a definite number of servings per 100 lbs. of food purchased.

We have ordered an automatic food shaping machine after watching its performance in one of our large colleges where uniformity of performance has resulted in using 300 lbs. of ground beef where 400 lbs. were formerly required when all meat patties were shaped by hand and they gradually grew larger as the worker shaped the four hundredth patty. Where three people were necessary for the hand process, one person now does the work nicely with the machine process.

A test was made in a second hospital to facilitate making hamburgers, sausage patties, corned beef hash cakes by use of this automatic shaping machine. Here is the result:

(1) The work of molding beef patties by hand required $8\frac{1}{2}$ man hours, involving four cooks. The same work by machine was done in 45 minutes by one cook.

(2) The cost of hand labor was \$6.03 while the same volume was produced by the machine at a cost of 51 cents.

The purchase price of the machine was \$550.00 and this hospital's administrator estimated that the purchase cost would be saved in 12 weeks. In addition, this hospital reported that the cost of repair and upkeep on this machine after one year's very hard use has been negligible.

Efficient equipment helps to raise the standards in food preparation and stimulates a higher type of performance by all employees down the line, with the fatigue element considerably lessened.

At Southwestern State Hospital two new cafeterias for men and women patients are equipped with modern and efficient equipment which has been successfully tested in the commercial food field. Efficiency in production and serving is as necessary in the hospital as in the commercial food field where

the sale of flavorful food pays the owner's salary if the customers continue to come back.

These cafeterias have improved the standards of food service and made it possible to:

(1) Serve hot foods hot.

(2) Serve cold foods cold.

(3) To introduce another economy in control of portions where one person does the serving of an item to a large group.

(4) To serve the larger groups in a reasonable period of time and to do it more conveniently.

As we are able to obtain the necessary cafeteria employees we plan to have a greater variety of foods on the menu daily and offer the patient a choice of meat, vegetable, fruit or dessert as part of the therapy program. The new dining rooms serviced by these cafeterias are a pleasant change from the former institutional dining room. With peach tinted walls, colorful draperies at the windows and mahogany four-chair tables with moss green tops, they offer a cheery atmosphere. Knives, forks and spoons are used as part of the therapy program also and there has been no difficulty.

Drinking fountains in the dining rooms and refrigerated milk dispensers at the cafeteria counters were installed for their convenience, to improve the service and to eliminate the investment involved in milk bottles, bottle washing and sterilizing machines, as well as the extra labor needed to carry on the above services.

These pleasant dining rooms raised the standard of table manners for many of the patients and we saw them use greater care to prevent spilling food on the floor. They expressed their admiration for "the pretty curtains and nice tables". A new interest in personal standards of neatness was noted by food service employees in several instances.

Since the food service department is a manufacturing department in which several operations are required it may well serve as a part of the occupational therapy program. The performance of small tasks provides activity for the patient; it can add variety to the day's routine, and latent talents may be brought to the surface. New skills can be developed which will form the basis for employment and independence when the patient leaves the hospital.

It can readily be seen that the food service department of a large mental hospital offers a real challenge.

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Typhoid Fever Control

The decline in the incidence of typhoid fever in Virginia over the past forty years is shown by the following table:

The supervision of chronic carriers is the responsibility of the local health department. The chronic carrier is defined as one who still shows the organism one year after infection. In carrying out this re-

Year	Reported Cases	Case Rate*	Year	Reported Cases	Case Rate*	Year	Reported Cases	Case Rate*	Year	Reported Cases	Case Rate*
1910	7285	353.4	1921	2845	123.4	1932	1100	44.4	1943	198	6.9
1911	6744	322.9	1922	1827	78.2	1933	960	38.3	1944	127	4.5
1912	4292	202.8	1923	1990	84.8	1934	755	29.8	1945	158	5.6
1913	6503	303.4	1924	1510	64.0	1935	733	28.7	1946	116	3.9
1914	4610	212.5	1925	2100	88.6	1936	559	21.7	1947	124	4.0
1915	5193	236.6	1926	1596	67.0	1937	561	21.5	1948	110	3.5
1916	4503	202.8	1927	1403	58.7	1938	491	18.6	1949	116	3.7
1917	3515	156.5	1928	1023	42.6	1939	431	16.2	1950	68	2.0
1918	2416	106.4	1929	853	35.3	1940	256	9.6	1951	61	1.8
1919	2731	118.9	1930	1413	58.3	1941	319	11.9	1952	64+	—
1920	1888	81.8	1931	1541	62.8	1942	242	8.6			

*Rate per 100,000 population +Thru Sept. 30, 1952

These figures are reassuring and are a credit to community efforts in public health. These community measures have as their aim environmental sanitation through the establishment of safe water supplies, sanitary sewage disposal and the regulation of milk sources and distribution.

Reviewing these accomplishments and noting the decline in the reported cases of typhoid fever, we must check a tendency to become over-confident. The disease is relatively well controlled but it has not been eradicated. Final eradication depends on control and elimination of the reservoir of carriers—known and unknown—which exists in the population and which gets additions each year.

With the exception of those recently immunized during service in the armed forces, the general public remains susceptible. It is obvious that any break in the protective barrier of sanitation might result in serious consequences.

The human carrier is the existing reservoir for the typhoid organism. The Virginia typhoid carrier file contains the names of 118 persons. To these are added yearly an estimated 3% of typhoid fever cases in whom the carrier state persists. It is upon the detection and supervision of this group that control depends.

sponsibility the following rules should be observed:

1. A list of all carriers should be kept. The carriers should be instructed to report change of residence and the local health authority of the new jurisdiction should be informed.
2. The carrier should be instructed regarding the importance of personal hygiene and his responsibility to the community.
3. Members of carriers' families should be immunized against typhoid.
4. The carrier must be warned not to handle food or milk except in his own home, for himself or for the immediate family, who have been immunized against typhoid fever.

The early hope that the carrier rate might be reduced in persons treated with chloramphenicol has not been justified. Cecil states that cholecystectomy will eradicate the carrier state in about 90% of cases.

Through September 30, 1952 the number of cases of typhoid fever reported in Virginia from thirty-two counties and one city was 64. This is three more than were reported in 1951 and emphasizes the importance of continuing vigilance in the finding and follow-up of the typhoid case and carrier.

MONTHLY REPORT OF THE BUREAU OF
COMMUNICABLE DISEASE CONTROL

	Sept. 1952	Sept. 1951	Jan.- Sept. 1952	Jan.- Sept. 1951
Brucellosis	6	12	33	66
Diarrhea & Dysentery.....	218	537	1954	2302
Diphtheria	17	12	73	88
Hepatitis	69	6	552	18
Measles	45	65	15335	13746
Meningitis				
(Meningococcic)	6	8	150	95
Poliomyelitis	175	97	522	191
Rabies in Animals.....	25	22	371	170
Rocky Mt.				
Spotted fever	11	6	71	58
Scarlet fever	8	39	555	741
Tularemia	8	3	41	33
Typhoid & Paratyphoid ..	3	7	70	41

BOOK ANNOUNCEMENTS

Diagnostic Bacteriology. A Textbook for the Isolation and Identification of Pathogenic Bacteria. By ISABELLE GILBERT SCHAUB, A.B., Technical Director, Clinical Bacteriology Laboratories, The Johns Hopkins Hospital; etc. And M. KATHLEEN FOLEY, M.A., Instructor in Bacteriology, Department of Biological Sciences, College of Notre Dame of Maryland; etc. Fourth Edition. St. Louis, The C. V. Mosby Company. 1952. 356 pages. Cloth. Price \$4.50.

Schaub and Foley is not a textbook. It is an efficient and comprehensive handbook of diagnostic procedures. Such a book with its concise directions and time saving index is essential to a busy laboratory large or small. In a physician's office where there are relatively few bacteriological examinations in the midst of a welter of other work or in a large

hospital laboratory devoted exclusively to bacteriology, the book can be a great aid in streamlining necessary for modern therapy based upon bacteriological results.

The fourth edition of Schaub and Foley has been shortened by almost 200 pages by the omission of blank note pages contained in the former publication. Many of its chapters have been revised and brought up to date. An entire section composed of 3 chapters has been devoted to the "Determination of the Sensitivity of Bacteria to Antibiotics." Assay of sensitivities has, of course, stepped in to consume a large proportion of the Bacteriologist's time in the diagnostic laboratory. Schaub and Foley have kept pace with this new emphasis by increasing from 2½ pages to 28 pages the directions devoted to these techniques.

The section on "Media, Stain and Staining Technique, Reagents and Tests" has also been thoroughly worked over and valuable additions made. Notable among these additions are the trypticase media and those which aid in the isolation and identification of the Salmonella and Shigella groups of organisms. No attempt is made to duplicate the time-honored media manuals published by the producers of the dehydrated products but rather to limit instruction to the preparation of those media made from basic ingredients.

In the publication of the fourth edition of Schaub and Foley the diagnostic bacteriologist is given a further improvement on an already excellent handbook.

M. J.

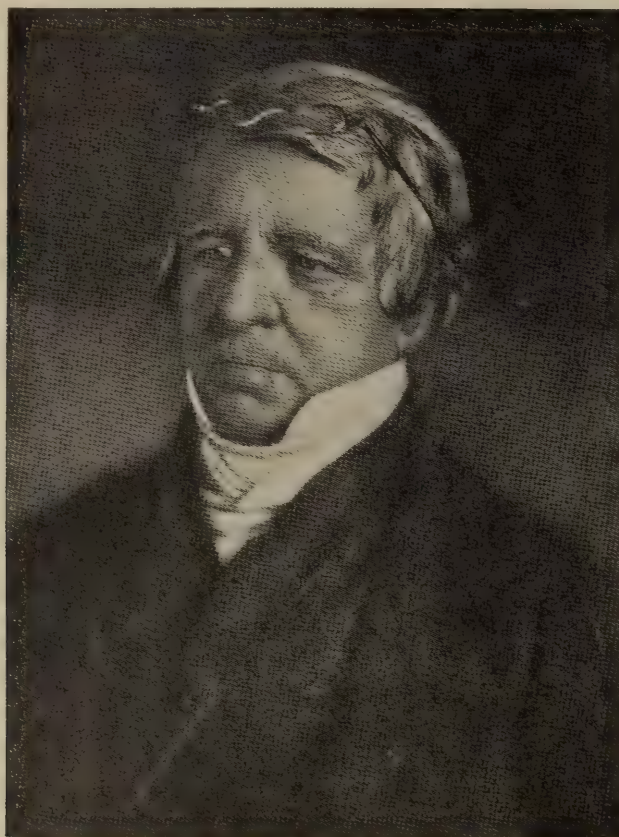
EDITORIAL

Nathaniel Chapman (1780-1853)

Arma virumque cano Troiae qui primus ab oris

THE hero of whom we sing left his native Virginia at the age of seventeen and went to Philadelphia where he had neither friends nor fortune. Here he rose to the top by sheer wit and wisdom. He became a professor in the university, started a postgraduate school, enjoyed as much of an opulent practice as he had time for, married a Biddle, and founded and was the editor of a medical journal that was, and still is, one of the best in the world.

For more than 200 years Philadelphia has been noted for its medicine, medicine with a background you might call it. Among its well known medical schools is the



NATHANIEL CHAPMAN, M.D.

oldest one in the country which is still one of the best and among its great hospitals is one founded by Benjamin Franklin. It has one of the greatest medical libraries in the world. Much of the medical literature is printed by its great publishing companies. Its leaders in the medical profession have been men of éclat. Medical students come from all over the world. Occasionally one or two from the outside world stay and join the hierarchy. At the beginning of the 19th century four Virginians stood in the top ranks of the Philadelphia profession, Chapman, Horner, Mitchell, and Mütter, and the greatest of these was Chapman.

Nathaniel Chapman was a Virginian of Virginians. His first colonial ancestor, a relative of Sir Walter Raleigh, came to Virginia with the first colonists and settled

on the Pamunkey River. This estate is still in the family. About 1700 a branch of the family moved to Maryland and settled on the Potomac nearly opposite Mt. Vernon. They called their new home Pamunkey. George Chapman moved back to Virginia and married Amelia Macrae, the daughter of Allan Macrae of Dumfries. Nathaniel, the second son of this marriage, was born at Summer Hill on the south shore of the Potomac in Fairfax County, on the 28th of May, 1780.

For six years he went to The Academy in Alexandria, at that time under the direction of the Rev. Dr. McCrath, where he was grounded in sound scholarship. He then read medicine for two years under Dr. John Weems of Georgetown and Dr. Elisha Dick of Alexandria. In 1797 he went to Philadelphia where he soon became the favorite pupil of Dr. Benjamin Rush. He was graduated from the University of Pennsylvania in 1800 with a thesis on hydrophobia. He then went abroad for three years. In London he studied under Abernathy. After a sojourn of two years in Edinburgh, he returned to the United States in 1804 and that same year he married Rebecca the daughter of Col. Clement Biddle.

When he returned from Edinburgh he was offered a partnership by his old preceptor, Dr. Weems, but the second generation, students of Rush and Physick, were beginning to take over in Philadelphia and he cast his lot with that city. Shippen held the chair, or settee as Oliver Wendell Holmes called such arrangements, of anatomy, surgery and midwifery, and Caspar Wistar was firmly entrenched in anatomy as assistant. Wistar was anxious to be rid of obstetrics and James, Chapman and Dewees were teaching obstetrics privately. The four began a campaign for a separate chair in obstetrics. Finally in 1810 the trustees of the university established an optional chair and elected James professor and Chapman assistant. Dewees was left to his private teaching. Upon the death of Rush in 1813, there was a rearrangement of the faculty, and Chapman became professor of materia medica. In 1817 Chapman established the Medical Institute of Philadelphia, a postgraduate school with summer lectures. Dewees took an active part in the teaching here as did Horner of the *tensor tarsi* fame who had by this time come to Philadelphia.

Among Chapman's conferees of this period should be mentioned Joseph Hartshorne, a fellow alumnus of the Alexandria Academy, who in spite of a crippling deformity rose to prominence in the medical profession in Philadelphia. His deformity was acquired at the age of five; "having been exposed to cold while under the influence of calomel, at the close of an attack of small-pox, his feet were attacked with a deep-seated suppurative inflammation, which was allowed to produce a permanent contraction and flexion of the toes, and consequent incurable deformity and lameness." He was resident and librarian of the Pennsylvania Hospital and prepared a catalogue of its library. He was the special protégé of Professor Wistar, and upon Wistar's death in 1818 he fell heir to most of his practice. When the chair of surgery in the University became vacant by reason of Dr. Physick being transferred to anatomy, Hartshorne came within one vote of being elected professor of Surgery, losing to William Gibson.

Charles Caldwell, a North Carolinian, was another colleague of this period, but he was a temperamental misfit, and he left Philadelphia to found medical schools in Lexington and Louisville, Kentucky. Then there were John Syng Dorsey, a nephew of Phillip Syng Physick, Samuel Jackson, and J. K. Mitchell. Such were Chapman's associates in the first quarter of the 19th century.

In 1813 Chapman became professor of materia medica and in 1816 he succeeded to Rush's old chair, the theory and practice of medicine and clinical medicine, at the University of Pennsylvania. The next year appeared his great work on therapeutics which went through six editions.

In 1820 Chapman began the publication of the *Philadelphia Journal of the Medical and Physical Sciences*, the first number of which was dedicated to Dr. James McClurg. It is said that he created his journal in order to refute the disparaging remark made in the *Edinburgh Review* by the Rev. Mr. Sydney Smith: "In the four quarters of the globe, who reads an American Book? or goes to an American play? or looks at an American picture or statue? What does the world yet owe to American physicians or surgeons?" As long as Chapman remained the sole editor, this quotation appeared on the title page of the journal. (Bull. Med. Library Ass. 40:252, 1952).

In 1824 John D. Godman became co-editor, a position he held until his death six years later. Dr. W. P. Dewees was also on the editorial staff. He is listed as a collaborator in every number until his death in 1841. The journal continues to this day under the name of the *American Journal of the Medical Sciences*. It has always been one of the best medical journals of this country. In 1847 Chapman was chosen the first president of the American Medical Association. Three years later he retired from practice because of failing health. He died at his home on July 1, 1853 at the age of seventy-five years.

Chapman was successful in everything he undertook. He was always gay, jovial, and witty, and, as he grew older, his habit of punning increased. It was said that in the sick room his ever ready joke was frequently more effective than an anodyne. This may have been good therapy, but to say that his jokes put the patient to sleep was a doubtful compliment.

Haste by Ambulance Makes Waste

THE recent accident at Ryland and Grace Streets in Richmond in which a private car driven by a lady marine was totally destroyed, a city ambulance was overturned, and a water plug broken off causing a flooding of the street and great inconvenience to a number of citizens on their way to work, poses the question of how fast should an ambulance go? Fortunately no one was injured in this accident. The property damage amounted to \$2300. A second ambulance found the patient pacing the sidewalk in front of his house. His only complaint was a headache. He was taken to the emergency room of the hospital and given a couple of aspirin tablets.

The difference between safe driving and reckless driving amounts to probably 5 minutes, or at the most 10 minutes, in reaching the destination if all goes well. We can imagine cases of stab wounds, deep razor wounds of the throat, asphyxia from gas poisoning in which minutes could make a difference in the outcome. As a matter of fact the great majority of injuries can be handled very well by a neighbor or bystander, now that first aid training by the Red Cross has become well nigh universal. In cases of asphyxia, gas poisoning, and electric shock, there is no need of rush treatment by ambulances, since they are best treated by the local fireman who has the training and equipment, including pulmometer and antidotes for poisons, for emergency treatment.

Do any of the *Monthly's* readers know of a case where a delay of minutes in ambulance service actually jeopardized the patient's recovery? We would like to publish any such case or cases.

So serious is this problem that the Richmond Board of Health has appointed a committee of twelve representative citizens who have been studying all phases of ambulance service.

Diabetes Detection Week

DIABETES Detection Week is becoming somewhat of an annual national affair. The impetus for this idea, promulgated by the American Diabetes Association for focusing attention on one of the ten chief causes of death in this country, has arisen as much through the state and local units of the practicing physicians as from the diabetes society.

At a recent meeting of the Virginia Diabetes Association, it was decided that official action of this society should be limited. The Detection Drive should be fostered by and under the supervision of each local medical society. The actual work requires the time and cooperation of nearly every physician in the community. A real organization and plan must be developed if the drive is to be worthwhile. Help from government medicine, such as the Public Health Department, is not considered desirable. In view of these beliefs the Virginia Diabetes Association has decided to ask one community or area to undertake such a project to see what can be accomplished. It seems obvious that the worth of the project depends largely upon the interest of the physicians in each community. The results of this project for this year will influence future recommendations.

W.R.J.

Floral Eponym

SCIRPUS TABERNAEMONTANI

TABERNAEMONTANUS, JACOB THEODOR, 1520-1590

This German physician was born in Bergzabern. He began as an apothecary at Wissembough but later studied medicine. He became physician to the Elector and Bishop at Speyer and later to the Palsgrave at Zweibrücken. He died in Heidelberg. In addition to being a doctor he was a celebrated botanist. He is commemorated by three floral eponyms.

Scirpus tabernaemontani is one of the bulrush genus. It is closely related to *Cyperus papyrus*, the paper-making papyrus of the Egyptians.

SOCIETIES

The Fairfax County Medical Society

Met in the new building of the Falls Church Medical Center on September 9th. Before the meeting, a tour was made of the building which is located on Wilson Drive.

The question of immunization for tetanus for the total population was discussed and will be further discussed at a later meeting.

Officers were elected for the new year as follows: President, Dr. Claude Cooper, Annandale; Vice-President, Dr. T. B. McCord, Fairfax; Secretary, Dr. William Harris, Falls Church; and Treasurer, Dr. Paul Kemp, Falls Church.

A committee was appointed to arrange for the annual dinner, Dr. Stiegler of Falls Church as Chairman.

The question of selecting a voting representative from Northern Virginia in the District of Columbia Group Hospitalization Medical Service Benefit plan was discussed. Dr. Zylman was selected from the Fairfax County Medical Society to meet with others designated from northern Virginia and to discuss the question. The physicians of the county were urged to make broader use of the Instructive Visiting Nurse service. The headquarters of this service are located in the Jesse Building in Fairfax. Unless there is a great emergency and a doctor can not be reached, the service prefers to make all of its initial calls upon a physician's recommendation.

The next meeting will be held on the second Tuesday in October at the home of Dr. Robert Muilenburg at Falls Church.

Alice H. Kiessling, M.D.

The Loudoun County Medical Society

Met in Leesburg on October the 7th and, at this time, elected the following officers for the year 1953: President, Dr. D. T. Saffer, Middleburg; vice-presidents, Dr. C. G. Souder and Dr. Harold Jackson, both of Leesburg; and secretary-treasurer, Dr. Joseph M. Rogers, Leesburg.

The Wise County Medical Society

Had a dinner meeting at Hotel Norton on September 24, with an attendance of twenty-eight. The doctors were delighted with an authoritative presentation by Drs. R. G. Nichols, S. Domm, G. Mahon and D. H. Waterman of Knoxville, Tenn., who

had just returned from a lecture tour in South America, where the lectures were given in Portuguese and French. These doctors are known as the Knoxville Chest Group on Antibiotics and General Problems in Lung Diseases. Two new members were elected and several applications were presented to be acted on at the meeting on November 12.

Dr. L. E. Ball and Dr. Frank E. Handy were appointed as a fluorination committee to report in November. The Society voted 100% against deletion of the word "white" from the Constitution of the State Society and the delegate to the Richmond meeting was so instructed to vote.

T. J. Tudor,
Secretary-Treasurer.

The Medical Association of the Valley of Virginia

Held its semi-annual meeting at the Ingleside Hotel near Staunton on September 25, under the presidency of Dr. Charles L. Savage of Waynesboro. There was a morning session at which time clinical cases were reported as follows:

A Mass in the Left Upper Quadrant—Dr. W. A. MacIlwaine, Waynesboro

Ventricular Tachycardia and Fibrillation Associated with Myocardial Infarction—Dr. Julio Ibarra, Clifton Forge

Chronic Renal Failure with Conservative Management—Dr. John H. Guss, Staunton

The guest speaker was Dr. Sherman Mellinkoff, Associate in the Department of Medicine at Johns Hopkins Hospital, Baltimore, who spoke on The Pathological Physiology of the Kidney with Reference to Modern Therapy.

Luncheon was served at 1:30, following which there was a discussion period and a business session. At this time, Dr. Louis K. Woodward, Jr., of Woodstock, was elected president for the coming year and Dr. McKelden Smith of Staunton was re-elected secretary.

Roanoke Academy of Medicine.

At the regular meeting of the Academy on October 6th, the program was turned over to the new president, Dr. John E. Gardner, who gave his Presidential address.

NEWS

Annual Meeting, The Medical Society of Virginia.

The 105th annual meeting of The Medical Society of Virginia was held from September 28 to October 1, at Richmond's Hotel Jefferson, under the presidency of Dr. J. T. T. Hundley of Lynchburg.

A total registration of 1158 attended the four-day meeting, which featured a well-rounded scientific program and a full schedule of group luncheons and meetings.

Dr. James L. Hamner, Mannboro, was installed as President of the Society during the general session Wednesday morning. New officers are Dr. Vincent W. Archer, Charlottesville, President-Elect, Dr. Kinloch Nelson, Richmond, First Vice-President, Dr. Snowden C. Hall, Jr., Danville, Second Vice-President, and Dr. W. C. Welburn, Arlington, Third Vice-President.

Members of Council elected during the session were Dr. Walter P. Adams, Norfolk, Second District (reelected), Dr. Wilkins J. Ozlin, South Hill, Fourth District (reelected), Dr. Frank A. Farmer, Roanoke, Sixth District (reelected), Dr. Claude A. Nunnally, Fredericksburg, Eighth District, and Dr. James W. Love, Alexandria, Tenth District.

Dr. Carrington Williams, Sr., Richmond, was elected a delegate to the American Medical Association for a two year term beginning January 1, 1953. His alternate will be Dr. J. Morrison Hutcheson, Richmond.

Highlighting the social festivities was the Tuesday evening banquet attended by 525 members and guests. Earlier, the Woman's Auxiliary had enjoyed a delightful luncheon and fashion show at the Commonwealth Club.

The Monday evening general session featured addresses by Governor John S. Battle, Rear Admiral Lamont Pugh, and Dr. John T. T. Hundley. Members of the Fifty Year Club were also presented certificates at that time.

It was decided to hold the 1953 annual meeting of the Society in Roanoke from October 18-21.

The full report of the meetings of Council and the House of Delegates will be published in the December issue of the MONTHLY.

The American Academy of General Practice

Announces its Fifth Annual Scientific Assembly, to be held in Kiel Auditorium, Saint Louis, on March 23 to 26, 1953.

The program is being designed to give the general practitioner four days of "solid, meaty education in the diagnostic procedures, therapies and techniques useful in everyday practice", according to Dr. Merlin Newkirk, of South Gate, California, Chairman of the Committee on Scientific Assembly. It will cover seven principal subject areas: Pediatrics, physical examinations, industrial medicine, anesthesia, surgery, medical treatment, and cardiology.

The complete list of speakers has not been released, but will include such names as Richard Cattell, M.D., of the Lahey Clinic; Crenston Holman, M.D., of New York; Gracie R. Rowntree, M.D., Louisville, Ky.; Elmer Hess, M.D., Erie, Pa.; Arild Hansen, M.D., University of Texas; and Pinson Neal, M.D., University of Missouri.

The Scientific Exhibit Section will contain 60 carefully selected educational displays (several of them created specifically for this meeting) all closely integrated with the formal lecture program. Through this recently developed technique in program planning, the Academy is able to visually supplement the oral presentations from the lecture platform with related exhibits which may be studied by the physician at leisure.

The University of Virginia School of Medicine

Opened the year's series of postgraduate conferences for general physicians of the state with a conference on cardiovascular disease, October 24.

Speakers included Dr. Howard B. Sprague, Chief of Staff, House of Good Samaritan, and Associate Physician, Massachusetts General Hospital, on "Fear of Heart Disease"; Dr. Julian R. Beckwith, Chief, Department of Internal Medicine, Chesapeake & Ohio Hospital, Clifton Forge, on "The Problems of Arrhythmias in Practice"; Dr. Edward S. Orgain, Professor of Medicine and Director of the Cardiovascular Service, Duke University, on "The Management of Hypertension with Particular Reference to Newer Drug Therapy", and members of the faculty of the School of Medicine.

Other postgraduate conferences scheduled for the academic year 1952-53 are "Problems of Infancy in General Practice" on January 16, and "Diabetes and Its Complications" on April 17.

The University of Virginia School of Medicine

Commenced its Schedule of Graduate Lectures on October 6 at which time Dr. Harry M. Weber of the Mayo Clinic spoke on Clinical Indications for an X-Ray Examination of the Gastro-Intestinal Tract. On October 13 Dr. Harris Isbell of the Public Health Service Hospital at Lexington, Kentucky had as his subject The Clinical Manifestations of Drug Addiction. The subject on October 20 was Motor Disturbances of the Intestine by Dr. Thomas P. Almy of Cornell University Medical College. On October 24, in conjunction with the Conference on Cardiovascular Diseases, Dr. Howard Sprague of the Massachusetts General Hospital lectured on Fear of Heart Disease.

The other lectures for the month of November and December 1 are:

November 3—Guest Speaker: Dr. Henry K. Beecher, Anaesthetist-in-Chief, Massachusetts General Hospital—"The Relief of Pain with Chemical Agents".

November 10—A.O.A. Lectureship, Guest Speaker: (to be announced)

November 17—Guest Speaker: Dr. Arthur C. Curtis, Department of Dermatology, University of Michigan Hospital—"Sarcoidosis".

November 24—Guest Speaker: Dr. J. Burns Amberson, Bellevue Hospital—"The Management of Tuberculosis in View of Recent Advances".

December 1—Guest Speaker: Dr. John C. Whitehorn, Psychiatrist-in-Chief, Henry Phipps Psychiatric Clinic, The Johns Hopkins Hospital—"Psychiatry and Medical Education."

These will be on consecutive Monday evenings at 8:00 p.m. in the Medical School Auditorium, unless notice is given to the contrary, and physicians throughout the State may avail themselves of the opportunity to attend them.

The Clinical Society of the Virginia Diabetes Association

Will hold its annual meeting at the Baruch Auditorium at the Medical College of Virginia, Richmond. The time of the meeting is from 2:00-5:00

P.M., Friday, afternoon, November 7th. Dr. Alexander Marble of the Joslin group of Boston will be the guest speaker.

The program is as follows:

1. "Diagnosing Diabetes"—Dr. Callier Salley, Norfolk
2. "Problems Encountered in the Diabetics in Country Practice"—Dr. James Hamner, Mannboro
3. "NPH Insulin"—Dr. Thomas Edwards, Charlottesville
4. "The Complications of Diabetes and Their Prevention"—Dr. Alexander Marble, Boston, Mass.
5. "The Effect of Hypoglycemia on the Diabetic Heart"—Dr. W. R. Chitwood, Wytheville
6. "Transmetatarsal Amputation in the Diabetic"—Dr. Harry Warthen, Richmond
7. Panel
 1. Discussion of Papers
 2. Questions from the Floor

All members of The Medical Society of Virginia are eligible for membership in the society. Application for membership should be made to Dr. William A. Read, Newport News, Va.

This meeting is sponsored jointly by the Committee on Postgraduate Education of The Medical Society of Virginia and by the Medical College of Virginia.

TV Shows to Highlight Denver Meeting.

Plans are being made to present two half-hour network television shows covering high points of the American Medical Association's sixth annual Clinical Session in December. Originating from Denver, the telecasts will highlight Session activities, including presentations of new surgical and clinical demonstrations, special scientific exhibits and other interesting medical features. The programs will be of interest to physicians who cannot attend the meeting as well as to the general public.

Present plans call for coast-to-coast coverage on two different nights during the meeting, December 2-5. Once again the programs are being sponsored by Smith, Kline and French, Philadelphia pharmaceutical firm.

Dr. Charles L. Outland,

Medical director of the Richmond Public Schools for the past twenty years, was the recipient of the

William A. Howe Honor Award of the American School Health Association at a banquet in Cleveland, October 22. The award named in honor of the founder of the Association is given each year to perpetuate his philosophy of school health.

Southern Medical Association.

The announcement that this Association is to meet in Miami, Florida, November 10-13, speaks for itself in saying this should be a banner meeting. A fact that adds interest for Virginians is that this year's president is Dr. R. J. Wilkinson of Huntington, West Virginia, who is well known in this State and has many friends as an alumnus of the Medical College of Virginia. The many sections will furnish something of interest for everyone. If you have once been to Miami, you will want to go again.

American College of Surgeons.

There was a registered attendance of 11,526 at the meeting of the College in New York City, September 22-26. Many from foreign countries were among the number. It was impossible for any one to take in all the clinics, lectures, symposia, film lectures, new films with 23 televised operations, postgraduate courses, and scientific and technical exhibits.

An outstanding feature of the Congress was the presidential address, "A Report to Our Founders," by Dr. Alton Ochsner of New Orleans.

Fellowship was conferred upon 1,177 surgeons, the largest class of initiates in the history of the College. Those from Virginia so honored are:

Dr. John D. Adams, Clifton Forge
Dr. Horace A. Albertson, Roanoke
Dr. Daniel Coleman Booker, Richmond
Dr. Lewis H. Bosher, Jr., Richmond
Dr. Walter H. Buffey, Richmond
Dr. Ray H. Grubbs, Christiansburg
Dr. Virgil R. May, Jr., Richmond
Dr. Robert E. McAlpine, Norfolk
Dr. J. Treacy O'Hanlan, Waynesboro
Dr. Charles Russell Riley, Richmond
Dr. Nelson M. Smith, Petersburg
Dr. James T. Tucker, Richmond
Dr. D. Edward Watkins, Waynesboro
Dr. Carrington Williams, Jr., Richmond

Officers who took office are: President, Dr. Harold L. Foss, Danville, Pa.; vice-presidents, Dr. Robert H. Kennedy of New York and Dr. Thomas F. Mul-len of San Francisco; secretary, Dr. Michael L. Mason, Chicago; and treasurer, Dr. Warren H. Cole, Chicago.

Officers-elect are President, Dr. Fred W. Rankin, Lexington, Ky.; and vice-presidents, Dr. Frank Glenn, New York, and Dr. Dean M. Lierle, Iowa City.

Superintendent, Lynchburg State Colony.

Dr. W. I. Prichard has been named superintendent of the Lynchburg State Colony, succeeding Dr. D. L. Harrell, resigned. Dr. Prichard has, for several years, been superintendent of the Petersburg State Colony, and entered upon his new duties on November 15.

The Annual Frank N. Hack Lecture

Will be given at the Winchester Memorial Hospital, Winchester, on Wednesday November 19, by Dr. Edwin P. Lehman, Professor of Surgery at the University of Virginia, Charlottesville. His subject will be "Senile Gangrene". All physicians are invited to attend.

Appreciation of Dr. Booker.

A number of people of the Northern Neck gathered at Bethany Baptist Church on September 26th, to honor Dr. Robert E. Booker of Lottsburg in recognition of his fifty years of medical service to the community and also as an active member of the church in which he had served for many years on its board of deacons. A special program was followed by a reception for Dr. Booker and his wife and refreshments were served. Two of his sons, Drs. C. Leonard and James M. Booker, have been working with him since their graduation.

Appointment on State Board of Medical Examiners.

Governor Battle has appointed Dr. Cecil Glen Finney of Culpeper to the State Board of Medical Examiners and has reappointed Dr. C. L. Riley of Winchester and Dr. G. B. Setzler of Pennington Gap. All three will serve a term of five years.

Dr. Darius Flinchum,

Class of '44, University of Virginia, Department of Medicine, who practiced for a time at Stonega, has recently completed his fellowship in orthopedic surgery at Duke University and has opened offices in the Medical Arts Building, Columbus, Georgia, for the practice of orthopedic surgery.

Dr. Everett I. Evans,

A professor of surgery at the Medical College of

Virginia, Richmond, is recipient of a distinguished service award given by the University of Chicago, School of Medicine, of which he is an alumnus. He was one of twenty-eight Alumni so honored at its twenty-fifth anniversary celebration on October 3. He is currently giving a series of lectures and conferences in some European cities.

The Petersburg General Hospital,

Which is to replace the old hospital which has been operating in Petersburg for more than sixty years, was dedicated on October 14 with appropriate exercises which were of interest to all residents. Tours were conducted through the building after the ceremonies and for the rest of the week. It is hoped that patients may be accommodated some time during November.

"Study of Tuberculosis in Virginia—1952."

The Virginia Tuberculosis Association and the State Health Department, with Dr. Ennion S. Williams of Richmond as chairmen of the Steering Committee, are organizing a Study of Tuberculosis in Virginia—1952. They have obtained the services of Dr. Roscoe P. Kandle, Field Director of the American Public Health Association, to direct the study. The study will appraise the present services and indicate what changes or additions are needed so that the campaign will be as effective as possible.

It is hoped that each member of the medical profession will participate in giving necessary information as to individual cases when called upon.

Medical College of Virginia News.

The Medical College of Virginia, Richmond, opened its 115th session on September 15. Enrollment for the session is: Medicine, 366; Dentistry, 205; Pharmacy, 235; Nursing, 174; Hospital Administration, 9; X-ray Technology, 23; Graduate Study, 17; Public Health Nursing, 15; Medical Technology, 21; Physical Therapy, 43. In addition 187 young Negro women are enrolled in the various courses in nursing of the Saint Philip School of Nursing. In the MCV school of nursing, besides the regular enrollment, are 62 affiliates. Twenty-nine practical nurse students are also in training. Interning are 13 young women in the department of dietetics and the house staff of the hospitals numbers 110. The total enrollment for all schools, courses, including interns is 1,509.

Gifts and grants for the period, July 1 to October 1, total \$214,407.80.

Dr. Herbert W. Park, III, has been appointed Professor of Physical Medicine and Rehabilitation and Director of the Baruch Center of Physical Medicine.

Dr. Henry G. Kupfer has been promoted to Professor of Clinical Pathology and Chairman of the Department. This department has charge of the training school for medical technicians. A new degree course was inaugurated September 1 with 21 enrolled.

Dr. Miles E. Hench has been appointed Assistant Professor of Clinical Bacteriology.

Dr. Wyndham B. Blanton, Jr., has been made Assistant to the Dean, School of Medicine.

Dr. M. Josiah Hoover has been promoted to Associate Professor of Orthopedic Surgery.

Miss Susanne Hirt of the Baruch Center of Physical Medicine has been promoted to Associate Professor of Applied Anatomy.

Dr. William T. Sanger, President, was installed as President of the National Society of Crippled Children and Adults at its annual meeting in San Francisco the latter part of October.

Dr. R. Blackwell Smith, Dean of the School of Pharmacy, has been reappointed a member of the National Research Council.

Dr. Harry Lyons, Dean of the School of Dentistry, has been made president-elect of the American Academy of Periodontology.

Dr. Austin I. Dodson, Professor of Urology, has been made a member of the International Society of Urology. He was elected at the Ninth Congress of that body in New York recently. The Society has only 100 members in the United States.

Dr. Everett I. Evans, Professor of Surgery and Director of the Surgical Research Laboratories, on October 3 received a distinguished service award from the University of Chicago, his alma mater.

Doctor Evans is now in Europe on an extended lecture tour. He will give the McArthur Lectures at the University of Edinburgh and the Hunterian Oration before the Royal Academy of Surgeons, London. He will also speak to the Swedish Surgical Society, Stockholm. He will also conduct conferences on the treatment of burns in Paris, Liege, Amsterdam, Copenhagen and Lund. Doctor Evans will return to the States early in November.

Randolph-Minor Hall, a new dormitory for nurses, was occupied in September. Erected at a cost of \$593,411.36 for construction and \$50,000 for equipment, this new facility houses sixty student nurses and their house mothers. This is the first unit of the new structure and additions will be made later when funds are available.

The new dormitory is named in honor of two pioneer nurses of Virginia, Agnes Dillon Randolph (1875-1930) and Nannie Jacquelin Minor (1871-1934).

The Wood Memorial Building, a new home for the school of dentistry, is now well under way and completion is expected about July, 1953.

The American Academy of Obstetrics and Gynecology

Will hold its first Clinical Session December 15-17 at the Palmer House, Chicago. There will be six general discussions, and also a large number of scientific exhibits and technical displays. Dr. Carl P. Huber, of Indianapolis, the retiring president, will give his address at the time of the annual banquet.

The International Academy of Proctology

Announces its Annual Cash Prize and Certificate of Merit Award Contest for 1952-1953. The best unpublished contribution on Proctology or allied subjects will be awarded \$100.00 and a Certificate of Merit. Certificates will be awarded also to physicians whose entries are deemed of unusual merit. The competition is open to all physicians in all countries, whether or not affiliated with the International Academy of Proctology. The winning contributions will be selected by a board of impartial judges.

All entries are limited to 5,000 words, must be typewritten in English, and submitted in five copies and must be received no later than the first day of April, 1953. Entries should be addressed to the International Academy of Proctology, 43-55 Kissena Blvd., Flushing 55, New York.

Dr. Homer E. Ferguson

Has recently moved his office to Suite 215 Medical Arts Building, Richmond. At the seventeenth annual Convocation of the International College of Surgeons in Chicago on September 5, he received his Fellow in Obstetric and Gynecological Surgery.

Rural Health Conference Set For February 27-28.

"Widening the Highway to Health" will be the theme of the eighth national Conference on Rural Health to be held February 27-28 at the Roanoke Hotel, Roanoke, Virginia. The day preceding the general sessions (February 26) will be devoted to an informal get-together of physicians, who are responsible for rural health programs in their respective states, to discuss "Doctor Participation in Community Programs."

The subject of financing rural medical care will be covered at Friday's sessions. An experience-and-accomplishment program to stimulate thought on "What Can I Do When I Get Home?" will be presented the last morning. The final luncheon speaker will tell what medicine is doing, in cooperation with other organizations and groups, to help America solve its health problems.

The National Foundation for Infantile Paralysis

Announces the availability of a limited number of additional postdoctoral fellowships to candidates whose interests are research and teaching in medicine and the related biological and physical sciences. The purpose of these National Foundation fellowships is to increase the number of professional workers qualified to give leadership in the solution of basic and clinical research problems of poliomyelitis and other crippling diseases.

Complete information concerning qualifications and applications may be obtained from: Division of Professional Education, The National Foundation for Infantile Paralysis, 120 Broadway, New York 5, New York.

Geriatric Symposium.

The Veterans Administration Center at Kecoughtan and The Virginia Peninsula Academy of Medicine presented a Geriatric Symposium at Kecoughtan, September 18 and 19. The presiding officers were Dr. H. Nushan, Chief of the Medical Service at Kecoughtan, and Dr. Barnes Gillespie, president of the Academy of Medicine. The program included talks by prominent visiting specialists and local doctors and each session was closed with a panel discussion by the various speakers.

Postgraduate Seminar.

A Postgraduate Seminar on The Diagnosis and Treatment of Cancer, sponsored by the Committee on Postgraduate Medical Education of The Medical Society of Virginia is being conducted for seven weeks in Louisa on Mondays, Williamsburg on Tuesdays, Farmville on Thursdays, and Richmond on Fridays from October 6 through November 21. The Cancer specialist and Seminar Leader is Dr. Roscoe R. Spencer.

Jefferson Medical College

Philadelphia, has announced nineteen faculty promotions and six new appointments.

Dr. John B. Montgomery was promoted to professor of obstetrics and gynecology and Dr. Heinrich Brieger was advanced to professor of industrial medicine.

Three surgeons were promoted to the rank of clinical professor of surgery, Dr. Sherman A. Eger, Dr. Kenneth E. Fry, and Dr. George J. Willauer.

Advanced to the position of clinical professor of obstetrics and gynecology were Dr. Mario A. Castallo, Dr. I. Charles Lintgen and Dr. Roy W. Mohler. Dr. Theodore R. Eberhard was made clinical professor of radiology.

Dr. Walter J. Lee,

Who has for sometime been associate professor of Physical Medicine and Director of the Physical Therapy School at the Medical College of Virginia, Richmond, has located in Knoxville, Tennessee, where he is connected with the Acuff Clinic.

Virginia Division, American Cancer Society.

Dr. A. P. Jones, president, announces the appointment of Llewellyn Miller of Charlottesville as executive vice-president of this society. He accepted the appointment effective September 15.

Dr. A. I. Dodson

Of Richmond was elected a member of the International Society of Urology at its meeting in New York City, September 15-18.

He also addressed the American College of Surgeons, meeting in New York City on September 21-26. His subject was "Surgical Injuries of the Ureter".

Evening Courses for Adult Education.

The Richmond Area University Center has made available an impressive number of evening courses for adult education. This represents a cooperative

undertaking by four Virginia institutions: the University of Virginia, the University of Richmond, the Richmond Professional Institute, and the Richmond Public Schools. The courses range from study in trades and sciences through sociology, art, business, philosophy, language and foreign affairs. A single catalog may be obtained from the Richmond Area University Center listing all of the courses offered. The Richmond Professional Institute will provide courses in vocational and technical subjects; the University of Richmond will give courses in business administration and in chemistry, and the University of Virginia will offer liberal arts courses.

This program provides an exceptional opportunity to those who wish to continue formal education or to acquire new skills. Almost certainly it will be enthusiastically received by the public.

L.H.B.

The United States Civil Service Commission

Has announced a Medical Officer examination for filling the positions of Rotating Intern, Psychiatric Resident, and General Practice Resident in St. Elizabeth's Hospital in Washington, D. C.

The Rotating Intern positions pay \$2,800 a year, Psychiatric Resident, \$3,400 to \$4,200, and General Practice Resident, \$3,400 to \$3,800 a year. Education and training is required. No written test will be given. The maximum age limit is 35 years (waived for veterans).

Full information and application forms are available at most first- and second-class post offices, and at the U. S. Civil Service Commission, Washington 25, D. C. Applications will be accepted until further notice by the Executive Secretary, Board of U. S. Civil Service Examiners, St. Elizabeth's Hospital, Washington 25, D. C.

Wanted

For private practice in rural area. Present physician liable for military service. Contact Dr. W. I. Knight, Jr., Colonial Beach, Virginia. (*Adv.*)

Wanted

A physician for contract practice;

A physician for industrial hospital.

Address "Industrial Physician" care this journal, 1105 W. Franklin Street, Richmond 20, Virginia. (*Adv.*)

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GUEST EDITORIAL

New Hope for Hearts

THE American Heart Association was started in 1923 by a group of doctors interested primarily in heart disease. The organization stimulated much scientific interest and research, but remained a purely scientific body until 1947 when it was reorganized into a voluntary health agency and any interested laymen, as well as physicians, were invited to become members. The growth of the American Heart Association in regard to members and contributions since 1947 has been very encouraging. In the fiscal year 1948-1949 the American Heart Association and its affiliates spent \$750,000 on research; in 1951 it is estimated that approximately \$1,300,000 was spent. The American Heart Association cooperates with the National Heart Institute, which is a division of the U.S. Public Health Service. We would like to emphasize here that both of these organizations have a place, but that in the interest of private medicine and private enterprise we physicians must give our whole hearted support to the American Heart Association which represents a truly great voluntary agency striving to further research in cardiovascular disease, and also to educate the public about the facts of heart disease, and to furnish further knowledge to physicians and nurses concerning the great problems of cardiovascular disease and what is being done in an attempt to solve these problems. Disease of the heart and circulation are the leading cause of death in the United States, killing more than the next five leading causes of death combined. Cardiovascular diseases were three times more deadly than cancer and killed five times more people than accidents, eleven times more than tuberculosis and sixteen times more than diabetes.

In our own Commonwealth of Virginia in the year 1950, there were 29,680 deaths from all causes. Diseases of the heart and blood vessels caused 14,826 deaths.

What is the American Heart Association and its affiliates doing about this great problem?

Since the time of its reorganization in 1948 from a purely scientific body to a national voluntary health agency, there have been three main objectives, and the funds so generously contributed by the American public have been spent according to these principles. These objectives are I. Research, II. Education, III. Community Service.

I. RESEARCH. 25% of each dollar contributed to the local or state affiliates of the American Heart Association must be sent to the national office of the American Heart Association in New York. It is the policy of the national office to earmark 50% of its total budget for research purposes. The lives of millions of Americans will depend upon how successfully and how quickly research fighters against the heart diseases can arrive at their goals. Through its research program the American Heart Association is supporting the best available scientific minds and talents and encouraging continued search to solve the great riddles of heart disease in the hope of saving

lives and preventing suffering and the shameful waste of human and economic resources. Certain very important advances have been made in heart research in the past few years, especially in the discovery of new drugs and surgical techniques. The American Heart Association made medical research history when it appointed Dr. Victor Lorber as the first career investigator. In addition the Association supports established investigators, Research Fellows and Grants-in-Aid. Many affiliated chapters support local research projects, in fact affiliates of the Association spent \$600,000 on research last year.

II. EDUCATION is being provided to two great groups, 1. The Professional and 2. The lay public.

The Association through its educational program is providing and interpreting to the medical and allied profession the latest information available from the laboratory and clinic. This is carried out through the scientific council and scientific sessions of the American Heart Association, the Council for High Blood Pressure Research, the Council on Rheumatic Fever and Congenital Heart Disease, and also through professional publications and various manuals and guides and professional films.

Through the public education program the Association makes a great effort to reach the minds and hearts of the general public. Emphasis is placed upon action against heart disease. "Scare appeals" are shunned and efforts are made to eliminate unfounded anxieties so as not to create cardiac anxiety neuroses.

III. COMMUNITY SERVICE. There are approximately fifty-seven local affiliated heart associations in key areas of the country, developing community cardiac programs directly serving the public. These community services include improvement of diagnostic facilities, coordination of medical, nursing welfare and other services, rehabilitation of industrial workers with heart disease and projects for easing the burden of housewives with cardiovascular diseases. It is on the community level that the entire heart program meets its ultimate test in terms of practical benefit to the physicians and the heart patient.

The Richmond Chapter of the American Heart Association was organized in February 1949 and opened a full time office in January 1950. The Virginia Heart Association was organized in 1950 and now has the following associated chapters: Arlington-Fairfax Chapter, Piedmont Chapter, Danville Chapter, Richmond Chapter, Peninsula Chapter, Roanoke Valley Chapter, and Tidewater Chapter. Thus, one sees that we are quite a young organization, especially when compared with the tuberculosis association and other established groups. Our program in Virginia is planned along the general principles of the American Heart Association.

The state organization per se has not as yet a research project, however it is to be remembered that 25% of all funds collected for the Heart Fund in Virginia are sent directly to the national offices, and of this, 50% is spent for research. The Richmond Chapter helped the multitest clinic in 1950 and is helping in multitest program for the indigent patient this coming year. We have been greatly encouraged by a generous gift from Reynolds Metals Company, to be earmarked for a special research project on cholesterol and arteriosclerosis to be carried out at the Medical College of Virginia. It is hoped that more local research projects can be carried out in the future.

We are attempting to carry on the educational program by sending and having pamphlets available, such as recommended by the American Heart Association, for example "Know Your Heart", "Diseases of the Heart", "Heart Quiz", etc. To the interested physicians we are trying to send "Modern Concepts of C-V Disease" pub-

lished by the American Heart Association. We have had a seminar on heart diseases for nurses. We plan to have an annual or semi-annual Scientific Meeting to which all doctors are cordially invited and in the near future we hope to have at least one nationally known cardiologist on each program. We also hope to establish cardiac clinics for indigent patients in certain localities that do not have the facilities at present. The individual community services and programs will, of course, depend on the local organization, however it is the desire of the American Heart Association and the Virginia Heart Association to cooperate and help in every possible way.

We feel that there is "New Hope for Hearts" and earnestly request help, cooperation and suggestions from the practicing physicians of Virginia.

PAUL D. CAMP, M.D.

EDITOR'S NOTE: Dr. Camp is a prominent cardiologist of Richmond, Virginia, and is President of the Virginia Heart Association.

Floral Eponym

AMSONIA TABERNAEMONTANA

TABERNAEMONTANUS, JACOB THEODOR, 1520-1590

This German physician and botanist, physician to the Elector and Bishop at Speyer and the Palsgrave at Zweibrücken, shared with Dr. Amson, a Virginia doctor, in having *A. tabernaemontana* named for him.

Amsonia is a genus of American and Asiatic shrubs. *A. tabernaemontana* is a bushy perennial that grows from New Jersey to Texas.

THE CLINICAL MANIFESTATIONS AND TREATMENT OF CHRONIC HYPOPARATHYROIDISM*

REVERDY H. JONES, JR., M.D.†
Roanoke, Virginia.

Hypoparathyroidism most commonly results from the accidental removal of or damage to the parathyroid glands during a thyroid operation. Less frequently, hypoparathyroidism is seen following the excision of an excessive amount of parathyroid substance for hyperparathyroidism. Most often the disturbance is mild and temporary and results from a transitory injury to the parathyroid tissue or a disturbance of its blood supply, but the condition may persist and result in chronic hypoparathyroidism. The incidence of the acute manifestations of hypoparathyroidism following thyroid surgery has been reported as from 0.05 to 2 per cent^{1,2}, while latent manifestations of postoperative hypoparathyroidism have been reported as high as from 9 to 15 per cent of cases². The higher instances occur in the larger, more technically difficult goiters and particularly in operations for thyroid malignancy.

Idiopathic hypoparathyroidism is a much more rare condition, and, as the name implies, the cause is unknown. The condition has been associated with moniliasis³, with Addison's disease⁴, and has been reported in the child of a hyperparathyroid mother⁵. However, no etiological relationship has been established. Pseudohypoparathyroidism⁶ has been described in which apparently a sufficient amount of parathyroid hormone is present but there is a failure of its proper utilization by the peripheral tissue.

The most common clinical manifestation of chronic hypoparathyroidism is the symptom complex known as tetany. This condition may be present in the manifest form in either the acute or chronic phase, or it may be of the latent variety where no frank symptoms are present but where these can be elicited by peripheral nerve stimulation. The symptomatology of chronic parathyroid deficiency, whether idiopathic or postoperative, is quite varied and often not easily recognized. Tetany occurs in either the acute, chronic, or latent form and may manifest itself by an almost constant tingling and spasm of

the extremities or by episodes of numbness, carpopedal spasm and cramps, and, in the more severe cases, by laryngeal spasm, psychic aberrations, and convulsions. In chronic hypoparathyroidism with latent tetany, the patient may demonstrate one or more of the following phenomena which will prove of help in establishing the diagnosis:

Chvostek's sign may be demonstrated by tapping the trunk of the facial nerve just anterior to the external auditory meatus or just below the zygomatic process. A positive reaction consists of a momentary twitching of the facial muscles, particularly those of the upper lip. This is an extremely reliable test and is almost always positive in untreated hypoparathyroidism although it may occur occasionally in normal individuals.

Trousseau's sign is elicited by applying sufficient pressure on the arm with a tourniquet or preferably a sphygmomanometer to halt the circulation. The pressure should be maintained above the systolic level for at least three minutes and a positive reaction is characterized by the production of carpopedal spasm. This test is not as reliable as Chvostek's sign and may frequently be absent in well authenticated cases.

Erb's sign is of more academic interest and is seldom used. It consists of demonstrating an increased excitability of the motor nerves to stimulation with galvanic current.

Multiple ectodermal changes are very frequently encountered in chronic hypoparathyroidism⁷. Lenticular opacities are the most common complication and with the use of the slit lamp these can often be demonstrated at a very early stage. If the blood calcium is kept normal, cataracts do not develop, but, once formed, they do not regress under treatment⁸. Atrophic changes occur in the finger and toe nails. The skin may become dry and coarse and the hair on the head and in the axillary and pubic region is often scant. Most interesting are the changes which occur in the teeth. When hypoparathyroidism begins before all the teeth have entirely formed, hypoplasia, blunting, and enamel defects occur in those

†From the Medical Service, Lewis-Gale Hospital, Roanoke, Virginia.

*Read before the Virginia Section of the American College of Physicians, February 28, 1951, Roanoke, Virginia.

teeth not fully developed while those which have matured remain unaffected^{9,10}.

The sole manifestation of hypoparathyroidism may be generalized convulsions and at times these patients have been treated over extended periods for epilepsy before the correct diagnosis was established. Repeated convulsions usually lead to mental retardation which happily is not entirely irreversible with treatment¹¹, and the convulsions themselves can be relieved following control of the parathyroid insufficiency¹².

Symmetrical bilateral calcification of the basal ganglia of the brain tissue in hypoparathyroidism gives a characteristic roentgen ray which was described as early as 1935^{13,14}. This calcification is not limited to patients with parathyroid insufficiency, however, and has been observed in patients with a previous history of encephalitis, toxoplasmosis, or mental deficiency since birth. That the calcification itself is not responsible for the convulsions in hypoparathyroidism is demonstrated by the fact that cases have been reported which were relieved of their tetanic episodes with appropriate treatment but subsequent X-rays revealed persisting basal ganglia calcification¹¹.

Women with chronic mild hypoparathyroidism will often report an exacerbation of symptoms during the menses^{15,16} and occasionally will voluntarily increase their calcium intake during these periods. The loss of blood with a transient lowering of the serum calcium may account for this phenomenon. Latent hypoparathyroidism is not usually aggravated by pregnancy, but lactation with its marked drain on the body calcium stores will often precipitate frank symptoms in a patient with latent parathyroid deficiency. This is understandable when one realizes that over four times as much calcium is lost from the mother's body during nine months of lactation as is lost during pregnancy¹⁷.

Other bizarre symptoms may be the outstanding clinical features found in chronic hypoparathyroidism. Esophageal spasm suspicious of carcinoma of the esophagus has been reported¹⁸. Muscular weakness, fatigue, and general malaise¹⁹ may be the cardinal manifestations and the combination of papilledema and convulsions has led to the mistaken diagnosis of brain tumor in a patient with parathyroid insufficiency²⁰. While acute hypoparathyroidism with tetany following an operation is rela-

tively easy to detect, the chronic manifestations of hypoparathyroidism are more elusive as evidenced by the fact that a number of these patients continue for years without specific treatment.

When suspected clinically, the diagnosis of hypoparathyroidism may be confirmed by the typical blood chemical changes. Characteristically, there is a low serum calcium, a high serum phosphorus, a decreased amount or absence of urinary calcium, and a low or normal serum alkaline phosphatase. Serum calcium and phosphorus determinations are subject to considerable laboratory variation under even the best of circumstances and repeated observations of these values should be obtained before arriving at the final diagnosis. The Sulkowitch reagent²¹ is extremely useful in determining grossly the amount of urinary calcium, which is greatly reduced or absent in untreated hypoparathyroidism. With this reagent, one can very easily differentiate (a) urine with practically no calcium, (b) urine with small or normal amounts of calcium, and (c) urine with large amounts of calcium. There is a characteristic prolongation of the Q-T interval of the electrocardiogram as a result of hypocalcemia²², and the bones in hypoparathyroidism are definitely more dense than normal although the X-ray changes are not outstanding.

The differential diagnosis of hypoparathyroidism is in essence the differential diagnosis of tetany. Generally speaking, the two main causes of tetany are hypocalcemia and alkalosis. The most common cause of tetany due to alkalosis is hyperventilation, while less frequently alkalosis caused by the ingestion of large amounts of alkali or the loss of an excessive amount of gastric juice may occur. In these conditions the serum calcium and phosphorus values remain normal but there are changes in the CO₂ combining power of the serum. Besides hypoparathyroidism, hypocalcemia with tetany may occur in rickets or osteomalacia, in steatorrhea, and in chronic renal insufficiency with phosphate retention. In rickets, osteomalacia, and steatorrhea the low serum calcium level is associated with a normal or even a low serum phosphorus and the serum alkaline phosphatase is elevated. In chronic renal insufficiency, besides the urea retention, one finds an elevated phosphorus accompanied by hypocalcemia. However, the degree of hypocalcemia is not as marked in relation to the phosphate elevation as in hypopara-

thyroidism and tetany is relatively rare because of the associated acidosis. Other causes of convulsions as a brain tumor or idiopathic epilepsy are to be considered in the differential diagnosis and in any patient who has previously had a thyroidectomy and who presents vague and bizarre symptoms, hypoparathyroidism must be entertained as a clinical possibility. Table I charts the chemical changes found

in the degree of phosphorus excretion, AT-10 causing the greater excretion and thus acting in a manner more similar to the parathyroid hormone. While AT-10 is a more physiological preparation in the treatment of parathyroid deficiency, it is more expensive than vitamin D, so that for practical purposes a combined use of the two drugs has proven the therapy of choice, especially when one realizes

Type of Tetany	Serum Calcium	Serum Phosphorus	pH	Urinary Calcium	Calcium in feces
Parathyroid	Low	High	Normal	Low	Normal
Infantile	Low or Normal	Usually Low May be High or Normal	Normal	Low	High
Osteomalacia	Low	Usually Low May be Normal	Normal	Low	High
Steatorrhea	Low	Usually Low May be Normal	Normal	Low	High
Alkalotic	Normal	Normal	High	Normal	Normal
Nephritis	Low	High	Low	Low	High

Table I.—Chemical changes found in various types of tetany.

in these various conditions which must be considered in the differential diagnosis of hypoparathyroidism and particularly when one is encountered with the more rare idiopathic variety where the history of a previous thyroid operation is absent.

In the treatment of chronic hypoparathyroidism one is concerned primarily with raising the lowered serum calcium and reducing the high serum phosphorus. For this procedure, two main therapeutic agents are available, dihydrotachysterol or AT-10 and vitamin D. Dihydrotachysterol is an irradiation product of ergosterol and was first introduced by Holtz²³ in 1933 and later studied intensively by Albright and his workers at the Massachusetts General Hospital²⁴. These agents act similar to but not identical with the parathyroid hormone as shown in Table II²³. As can be seen, the main difference is

that the management of these patients is usually a life-time procedure.

Once the diagnosis of hypoparathyroidism is made dihydrotachysterol should be administered in sufficient amounts to raise the serum calcium and pro-

	Calcium Absorption	Urinary Phosphorus Excretion
Vitamin D	++++	++
Dihydrotachy- sterol	++	+++
Parathyroid Hormone	+	++++

Table II.—Relative effect of vitamin D, Dihydrotachysterol, and parathyroid hormone on intestinal calcium absorption and urinary phosphorus excretion. (28)

duce small amounts of calcium in the urine as shown by the Sulkowitch reagent. The usual amount is 3 cc. daily, which may be reduced once the elevated serum calcium and lowered phosphorus levels are obtained. With this, 100,000 units of vitamin D are administered daily. When symptoms have been relieved and the serum calcium level raised, the amount of AT-10 is reduced and the patient is regulated on the lowest possible dose which maintains the serum calcium and phosphorus at normal levels. It should be emphasized that the regulation of a patient with chronic hypoparathyroidism is somewhat similar to that of a diabetic. If large amounts of calcium appear in the urine as demonstrated by the Sulkowitch reagent, then the dosage of AT-10 and vitamin D is reduced, and, again, if no calcium appears or if tetany recurs, the medications are increased.

The usual maintenance dose of AT-10 is 1 to 3 cc. weekly combined with 100,000 to 200,000 units of vitamin D daily although variations occur depending upon the degree of hypoparathyroidism. Some patients with a mild deficiency can be maintained on small doses of either AT-10 or vitamin D alone but each patient must be treated in an individual manner depending on his reaction to therapy. Patients can easily be taught to test their urine with the Sulkowitch reagent daily so that within limits they can adjust their own medications. Periodic examinations of serum calcium and phosphorus levels every several months should supplement the Sulkowitch urine test, and the patient should be kept under constant observation for any necessary dosage regulation. The maintenance of these patients on large doses of vitamin D alone is not recommended because of the tendency to phosphate retention, and while the use of AT-10 alone, as discussed previously, is often desirable, it too frequently becomes prohibitive financially so that the balanced combination of the two drugs is most practical. The danger of over-dosage of either vitamin D or AT-10 is the production of hypercalcemia with metastatic calcification and renal damage, while mild under-dosage with hypocalcemia and latent tetany, if unobserved for any period of time, may result in the production of irreversible ectodermal changes.

Therapy with parathyroid hormone has been attempted both by transplantation of parathyroid tissue and by the subcutaneous or intramuscular ad-

ministration of parathyroid hormone. Transplantation is rarely successful although some excellent results have been reported²⁵. Injection therapy is seldom used because of the expense, the local irritation, the necessity of repeated injections, and because of the tendency to develop a refractory state. Cantarow²⁶ doubts that the lack of response is due to a true refractory or immune state but rather to the maintenance of a high phosphorus diet and the simultaneous administration of vitamin D. He does feel, however, that the objections to the prolonged use of parathyroid hormone are that it must be given parenterally and that spontaneous activity of remaining parathyroid tissue may be suppressed or inhibited.

The dietary phosphorus intake is restricted and thus milk, in spite of its high calcium content, should be eliminated because of the large amount of phosphorus it contains (0.93 gram in one quart). Additional calcium should be given orally and one can administer the gluconate, 4 grams, or the chloride or lactate, 2 grams, four times daily. In prescribing calcium it should be remembered that the various calcium salts differ in their calcium content. The chloride contains 36 per cent, the lactate 18 per cent, and the gluconate only 9 per cent of calcium, and usually a total of 2 grams of calcium itself should be administered daily. Calcium chloride, because of its tendency to produce a mild acidosis and help alleviate tetany, has been a favorite prescription. However, Albright²⁷ has observed some renal disorder with the prolonged use of this drug and feels that it should be used with some caution over any prolonged period of time. As an emergency procedure in the control of acute tetany it may be necessary to administer 10 cc. of calcium gluconate intravenously but the effects last only one to two hours, often must be repeated, and should be supplemented by oral calcium.

In addition, one may administer aluminum hydroxide after meals to decrease the phosphate absorption. It has further been shown that the thyroid hormone may increase the serum calcium level in hypoparathyroidism so that tolerated doses of this substance can be given. However, the treatment of chronic parathyroid deficiency is so prolonged that the fewer and more uncomplicated measures that the physician prescribes the more comfortable and normal the patient's life will become.

Lenticular opacities may develop very insidiously with only moderately low calcium levels and in the absence of any manifest symptoms. It is thus advisable for these patients to have periodic eye examinations with the slit lamp at least yearly for the detection of early cataracts.

The treatment of chronic hypoparathyroidism is an extremely long procedure and medication must necessarily extend over years. Improvement may occur but recovery is very unusual. A complete understanding of these facts between the patient and his physician will often ensue better cooperation and more satisfactory therapeutic results.

The following cases illustrate some of these clinical symptoms and methods of therapy:

Case I (LGH 31,332). V. W., a 33 year old white housewife, was first admitted on December 29, 1948, for the removal of a cataract from the right eye.

In October, 1941, the patient had had a partial thyroidectomy in another institution, which was followed by a similar operation in March, 1942. The patient had a stormy second postoperative course, developed pneumonia, and remembered few details of her condition. She developed definite tetany with contraction of the hands and feet, numbness of the face, and was treated with intravenous and oral calcium with only temporary relief.

During the several months following the operation the patient lost most of her hair and fingernails, six teeth fell out, and she had an almost constant tetany unless relieved by intravenous calcium several times weekly. She continued to take calcium chloride by mouth and large amounts of milk. The patient's hair and nails gradually returned to normal and her tetanic episodes became milder. However, through the years, she still persisted with an almost constant sense of drawing of her hands. At least weekly injections of intravenous calcium remained necessary, and the patient related that in spite of treatment, an exacerbation of her symptoms would occur at the menstrual period.

On one occasion the patient was advised that it would not be necessary to continue oral calcium. Within a few days after stopping medication, she experienced severe generalized contractions necessitating multiple intravenous calcium injections and followed later by again losing some of her hair.

Six years prior to admission, or two years following the onset of her symptoms, the patient noticed a

gradual, increasingly severe diminution of vision which was so diminished at the time of admission that she could do little more than distinguish moving objects.

The physical examination on admission revealed advanced bilateral cataracts. Several false teeth were present and a well-healed thyroidectomy scar was evident. Chvostek's sign was strongly positive and there was an almost constant contracture of the hands. The remainder of the examination was normal.

On admission the serum calcium level was 8.4 mgs. per 100 cc., and the serum phosphorus was 7.3 mgs. The Sulkowitch reagent persistently revealed an excessive amount of calcium in the urine. The Q-T interval in the electrocardiogram was 0.50 sec. (normal for age and rate, 0.40 sec.).

Because of the almost constant tetany, intravenous calcium gluconate was administered once on 12/31/48 and three times on 1/1/49. On 12/31/48 therapy with AT-10 was initiated with 2½ cc. b.i.d. for two days and then reduced to 2½ cc. daily. By 1/2/49 the patient was completely relieved of her symptoms of tetany. A low phosphorus diet was given and calcium chloride administered by mouth. The Sulkowitch reagent continued to show large amounts of urinary calcium. On 1/8/49 the serum calcium was 8 mgs. and the phosphorus 7.8 mgs., in spite of the fact that the patient was free of symptoms. A successful cataract extraction had been performed on 12/31/48, and the patient was discharged from the hospital on a low phosphorus diet, oral calcium chloride, and AT-10, 1 cc. three times a week, to be followed as an outpatient.

On 1/25/49 the serum calcium was 8.6 mgs., and the phosphorus 5 mgs., although the urine still showed large quantities of calcium. The patient had been completely relieved of tetany for the longest period in the preceding eight years.

On 2/21/49 the serum calcium and phosphorus levels were 8.9 mgs. and 5.0 mgs. The electrocardiogram showed a reduction of the Q-T interval from 0.50 to 0.44 sec. (Fig. I). AT-10 was decreased to 1 cc. twice weekly, but one month later the patient complained of considerable cramping in her hands, the first she had noted since beginning treatment, and the serum calcium was reported as 7.7 mgs. with the phosphorus 5.6 mgs. AT-10 was increased to 1

cc. every other day with complete alleviation of her symptoms within a week.

In spite of moderately low calcium levels, the urine continued to reveal excessive amounts of calcium. The patient had been on calcium chloride orally for eight years. In accord with the observation of Albright²⁵, an effort was made to change oral

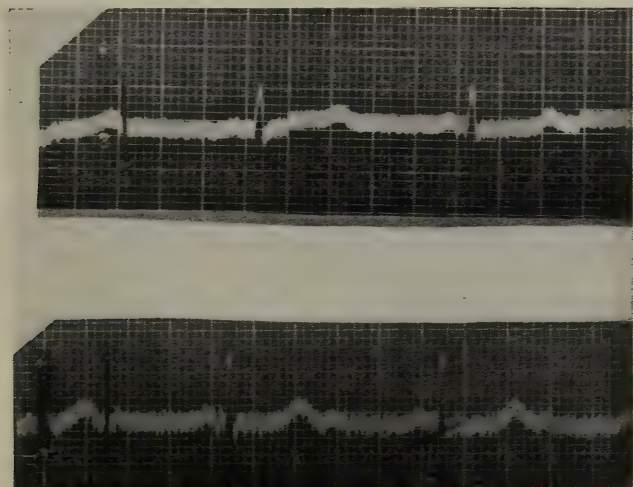


Figure I.—Lead I of electrocardiograms in Case I (V.W.) showing the prolongation of the Q-T interval with hypocalcemia (12/31/48) and return to normal with therapy (1/25/49).

calcium to calcium lactate and calcium gluconate. However, each time the patient attempted to do without calcium chloride, tetany returned. The addition of vitamin D, 50,000 units three times a week, thyroid extract, one grain daily, and aluminum hydroxide gel three times daily had no additional effect.

On 10/1/49 the calcium level was 9 mgs., and the phosphorus 3.4 mgs., so that the dosage of AT-10 was again reduced. Although no tetany occurred (except with menses), on her visit of June, 1950, the calcium level had fallen to 8.5 mgs., and the phosphorus had risen to 5.9 mgs., so that AT-10 was again increased to 1 cc. three times weekly and vitamin D increased gradually to 200,000 units daily. On this regime the calcium rose and the phosphorus fell, the last report in March, 1951, showing the calcium level to be 8.9 mgs. and the phosphorus 4.9 mgs. with a normal amount of calcium in the urine. The patient's course can be followed graphically in Chart I.

At the present time the patient is completely free of symptoms, including the time of her menses, she pursues a normal life and is active in housework and social affairs. Her sight has been considerably restored by the operation but she has elected to forego removal of the remaining cataract.

This patient illustrates the multiple ectodermal changes that may result with chronic parathyroid deficiency. Severe bilateral cataracts developed within two years and finally necessitated operative removal. Atrophic changes occurred in the nails and on two occasions during periods of prolonged tetany the patient lost her hair. This patient also exhibited the typical exacerbation of tetanic symptoms during the menstrual period.

Of extreme interest is the persistent hypercalcuria in spite of a relatively low serum calcium level. Albright has commented on a questionable renal disorder characterized by hypercalcuria and a low serum calcium level occurring with long continued calcium chloride administration and an associated pyelonephritis. The urine was cultured in this patient but was sterile. In spite of giving as large an amount as 160 to 180 grains of calcium lactate or calcium gluconate daily, the patient was unable to omit calcium chloride without subsequent tetany.

Case II (LGH 40,473). M. C., a 34 year old white housewife was admitted to the hospital March 22, 1950, because of severe contractions of the hands and laryngeal spasm.

On August 8, 1947, the patient had had a subtotal thyroidectomy with the removal of a toxic adenoma. Immediately following operation, the patient noticed numbness, tingling, and drawing of her hands, which symptoms were relieved by the occasional intravenous administration of calcium gluconate. The serum calcium level was reported as 11 mgs. per 100 cc., but the determination was not repeated. This condition persisted for approximately six months necessitating weekly or bi-weekly injections of calcium, but after this the patient became free of any tetanic episodes. She had noticed no visual disturbance.

In September, 1948, the patient became pregnant and throughout her term was given calcium diphosphate and advised to increase her milk intake. She noticed no tetany and in June, 1949, delivered a normal full term infant. The patient breast fed her baby and took no additional medication but she continued to ingest large quantities of milk.

In February, 1950, approximately eight months after the initiation of lactation, the patient for the first time in two years noticed a return of numbness and tingling of her hands. The severity of this condition varied, but over the next few weeks gradually

increased. During the week before admission she had several severe spells of muscular contraction accompanied by a drawing and tightness in her throat with some respiratory difficulty. She received several injections of calcium gluconate intravenously with only temporary benefit and because her symptoms persisted she was admitted to the hospital.

The outstanding physical signs were a well-healed thyroidectomy scar, intermittent contractions of the hands and fingers, and markedly positive Chvostek and Trousseau signs. Eye examination by an ophthal-

the urine. The patient had no symptoms and was discharged from the hospital on 1 cc. of AT-10 daily, oral calcium, 50,000 units of vitamin D daily, and a low phosphorus diet.

On April 24, 1950, one month later, the patient reported she had had an episode of tetany requiring intravenous calcium. The serum calcium was 6.9 mgs. and the phosphorus 6.57 mgs., so that the dosage of AT-10 was increased to 3 cc. daily. Two months later the calcium had increased to 8.5 mgs., although the phosphorus was still elevated at 6.7

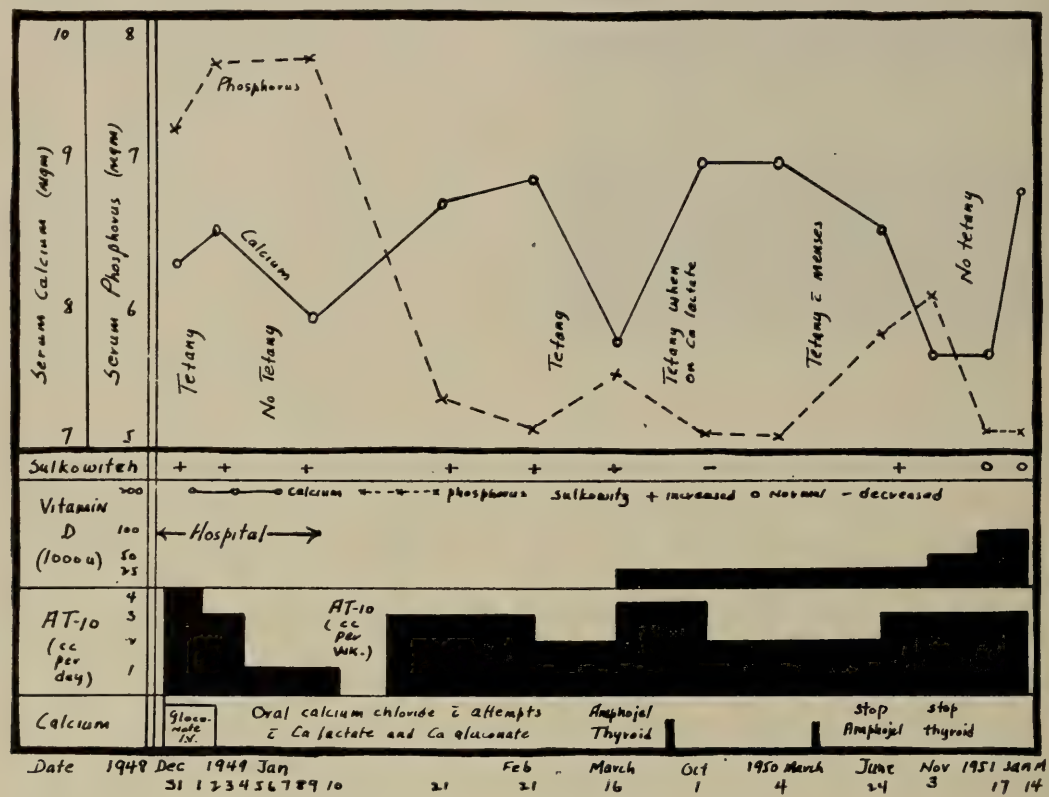


Chart I.—Case I (V.W.) Graphic outline of therapy.

mologist with a slit lamp revealed several small opacities lying in the lens cortex of each eye.

The serum calcium level was reported as 6.3 mgs. per 100 cc. and the serum phosphorus as 7.8 mgs. The alkaline phosphatase was normal and the urine had an abnormally small amount of calcium present.

The patient was placed on 3 cc. of AT-10 daily with calcium lactate, 30 grains four times daily, accompanied by a low phosphorus diet and 50,000 units of vitamin D every other day. Intravenous calcium was necessary for the first three days only. On March 30, 1950, the serum calcium was reported as 6.9 mgs. and the phosphorus 6.9 mgs., and there was still an abnormally low amount of calcium in

mgs. The patient had experienced no further tetany.

After three months on this dosage the calcium level was 8.8 mgs. and the phosphorus 5.6 mgs. Trousseau's sign was negative and the Chvostek only slightly positive. The Sulkowitch reagent revealed a normal amount of calcium in the urine and clinically the patient had remained free of symptoms. The dosage of AT-10 was accordingly reduced to 1 cc. daily and the vitamin D raised to 100,000 units daily.

In spite of increasing the amount of vitamin D to 200,000 units daily, one month later the blood calcium level fell to 7.8 mgs., and the phosphorus remained slightly elevated at 5.7 mgs. On April 4,

1950, the vitamin D was increased to 250,000—300,000 units daily, and she was retained on 1 cc. of AT-10 three times weekly with supplementary calcium and a low phosphorus diet. Over the next several months the calcium levels rose and the phosphorus decreased, so that in October, 1951, six months later, the calcium was recorded as 9.5 mgs., the phosphorus 5.5 mgs., and there was a normal amount of calcium in the urine. The patient has remained free of symptoms for over a year. She does her own housework, enters into social activities, and leads an essentially normal life.

This patient illustrates the interesting effect of pregnancy and lactation on latent tetany. Undoubtedly, hypoparathyroidism with latent tetany had been present for several years. Pregnancy does not produce an excessive drain on the body calcium supplies, but lactation, particularly during the later months, causes a severe calcium depletion. The increased ingestion of milk during pregnancy and lactation with its high phosphorus content further enhanced the patient's difficulties. This patient's latent tetany characteristically became manifest during the eight months of lactation.

The insidious onset of cataracts with hypocalcemia is also demonstrated by this case. The patient had noticed no visual disturbance but slit lamp examination revealed definite early lenticular opacities. If the hypocalcemia had been permitted to continue, severe irreversible lenticular damage may have resulted. When one realizes that these opacities may begin or progress even with the patient under treatment should the serum calcium remain at subnormal but latent levels, the value of periodic slit lamp ophthalmological examinations as a supplementary guide in therapy is all too evident.

The graphic record of the patient's therapeutic course (Chart II) reveals her need for relatively large amounts of dihydrotachysterol when she was taking only 50,000 units of vitamin D daily. The patient required as much as 3 cc. of AT-10 daily for almost five months to raise the calcium level to 9 mgs. When AT-10 was reduced, the calcium fell but later could be elevated by increasing the dosage of vitamin D. The patient's last calcium and phosphorus levels were more elevated and repeated observations will be necessary to arrive at the optimum dosage, which again illustrates, as in each of these cases, the neces-

sity of continued blood and urine studies and individual therapeutic regulation.

Case III (LGH 43,822). E. E., a 30 year old white female was first admitted to the hospital on August 24, 1950, because of stiffness of her hands and face, nervousness, and convulsions.

The patient's history was extremely long and complicated. In April, 1943, she had had a subtotal thyroidectomy in another city which was immediately followed with stiffness of the hands and face and with convulsions. The patient was discharged but because of the persistence of her symptoms she was readmitted on two occasions, treated with intravenous and oral calcium, and with parathyroid hormone. No serum calcium levels were available, and the diagnoses were recorded as "hysteria" and "psychoneurosis."

During the next several years the patient continued to have tetanic episodes as well as convulsions. She visited a number of medical institutions and was placed on various regimes of calcium, vitamin D, AT-10, and at one time had had a parathyroid transplant which was unsuccessful. The patient had considerable social difficulties, had obtained a divorce, and periodically had been habituated to seconal, chloral hydrate, and paraldehyde. On one occasion, she had been committed to the State Colony for Epilepsy. The patient moved from place to place, attempted to obtain paraldehyde or seconal from various physicians, and often was given intravenous calcium at numerous outpatient departments. She was usually without funds to procure her medications and remained in an almost constant state of tetany with many convulsive episodes.

In 1948 the patient had an intensive medical examination at a well recognized medical school hospital. Her symptoms were unchanged. Physically, the patient was recorded as being very nervous and hyperirritable. Both Trousseau's phenomenon and Chvostek's sign were positive. The serum calcium was recorded as 5.9 mgs., and the phosphorus as 4.3 mgs., and the diagnosis of hypoparathyroidism was established. The patient was controlled adequately on a regime of 4 cc. of AT-10 daily, supplemented with calcium lactate and a low phosphorus diet. While under observation, the patient frequently became excitable and hyperventilated with the production of carpopedal spasm which was apparently unrelated to her serum calcium level. The patient also

had several convulsions which also were likewise unrelated to the serum calcium level. Dilantin was considered but was not felt advisable because at least a part of the patient's symptoms seemed hysterical. All of this made a clinical evaluation very difficult and besides the diagnosis of hypoparathyroidism it was felt that the patient had a complicating severe mixed psychoneurosis.

In the two years following this hospitalization, the patient's symptoms remained unchanged. When she received adequate medication, she would remain free

present and both Chvostek's and Trousseau's signs were strongly positive. Slit lamp examination revealed very minute early lenticular opacities.

The serum calcium was reported as 6.9 mgs., the serum phosphorus 6.94 mgs., and the Sulkowitch reagent revealed a decrease in urinary calcium. The Q-T interval in the electrocardiogram was normal, and the X-ray of the skull failed to show calcification of the basal ganglia.

The patient was given intravenous calcium three times daily for two days as well as 3 cc. of AT-10

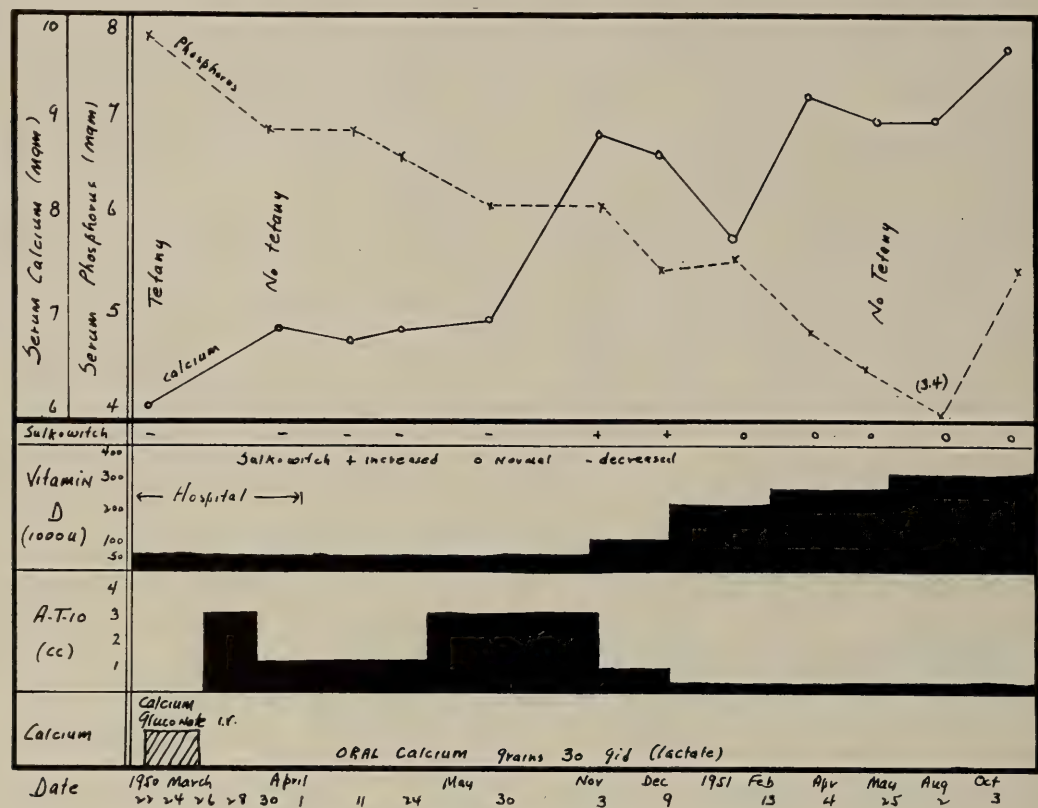


Chart II.—Case II (M.C.) Graphic outline of therapy.

of symptoms but too often, either because of finances or because of bouts of drug addiction, therapy would cease and inevitably tetany and convulsions would recur. In the few months before admission, the patient had taken large amounts of paraldehyde and seconal. Specific medications aside from frequent intravenous injections of calcium had been neglected, and when the patient presented herself in the Emergency Department requesting an intravenous injection of calcium late one evening, she was admitted for further observation.

The physical examination revealed an extremely nervous individual with several healed superficial scars on the forehead. A thyroidectomy scar was

daily, oral calcium, 50,000 units of vitamin D, and a low phosphorus diet. Within 24 hours her symptoms subsided, intravenous calcium was discontinued, and AT-10 was reduced to 2 cc. daily. On August 31, 1950, seven days after admission, the serum calcium was 11.7 mgs. and the phosphorus 6.29 mgs., the Sulkowitch reaction showed normal amounts of calcium in the urine, and AT-10 was reduced to 1 cc. daily.

On several occasions the patient had convulsions or episodes of tetany with demonstrable Chvostek's and Trousseau's signs, although the serum calcium level at the time was within normal limits and the relief as well as eliminating the Trousseau's

phenomenon with a few minutes. The patient was extremely nervous and breathing rapidly so that the symptoms of tetany were felt to be the result of hyperventilation.

On September 11, 1950, the serum calcium was 10.5 mgs. and the phosphorus 4.8 mgs. The patient had been placed on 1½ grains of Dilantin twice daily and she was discharged from the hospital on 1 cc. of AT-10 every other day supplemented with 50,000 units of vitamin D daily, oral calcium, and diet. One month later, although the patient

returned to 9 mgs. with the phosphorus at 4.8 mgs. On 2/17/51 the calcium was 9 mgs. and the phosphorus 5.7 mgs., and she was placed on 1 cc. of AT-10 daily with 200,000 units of vitamin D.

For over six months the patient went without Dilantin. Her nervous condition improved and she had no further convulsions. The patient persisted with considerable emotional difficulty. In the past she had frequently been stabilized with all too frequent relapses, but persistent therapy may result in at least partial rehabilitation.

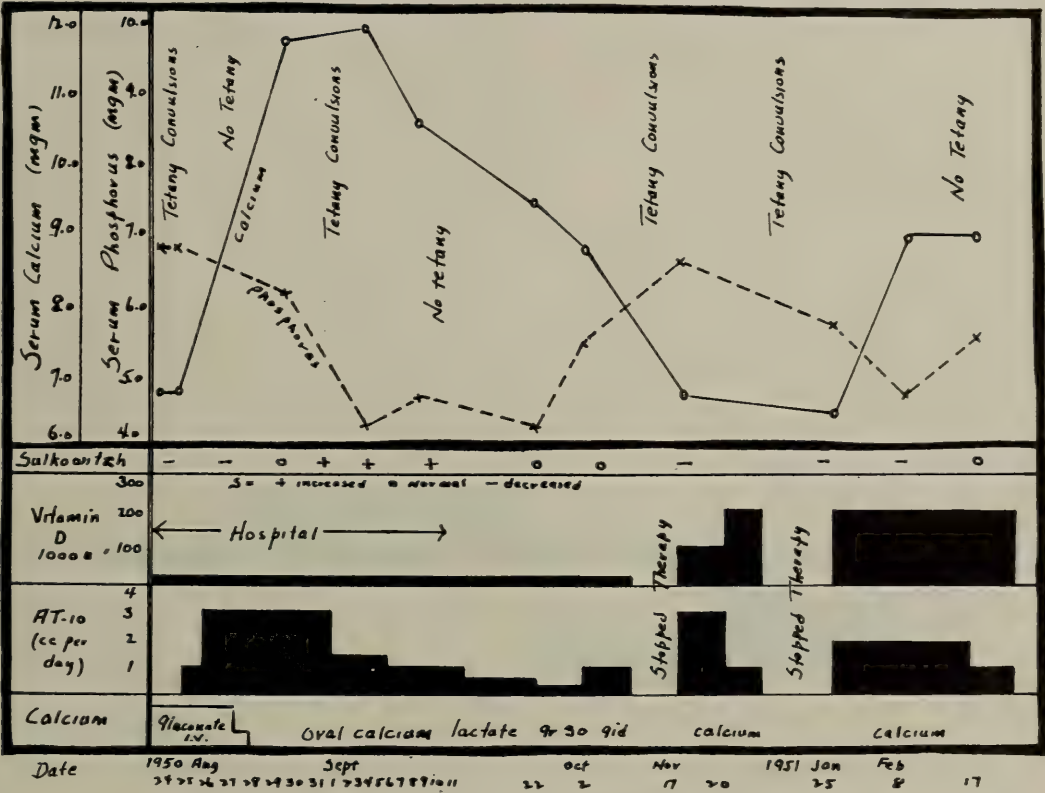


Chart III.—Case III (E.E.) Graphic outline of therapy.

had no symptoms, the calcium had fallen to 8.4 mgs. and the phosphorus was reported as 5.4 mgs., so that the dose of AT-10 was raised to 1 cc. daily.

Twice during the next four months the patient discontinued her medication with a resulting fall in serum calcium and a return of her symptoms. On one of these occasions while traveling on a bus she had a typical convulsion and was treated for epilepsy. Several days later—on 1/25/51—the serum calcium was 6.5 mgs. and the phosphorus 5.9 mgs. Therapy was reinstituted with 1 cc. of AT-10 daily supplemented with 200,000 units of vitamin D daily and oral calcium. In two weeks the patient was free of symptoms, and the calcium level had

Chart III summarizes the patient's therapeutic course.

This patient illustrates the all too frequent occurrence of convulsions associated with parathyroid deficiency. Calcification of the basal ganglia associated with convulsions in hypoparathyroidism has been mentioned, although this phenomenon was not present in this case. Repeated convulsions may lead to mental retardation in the young or mental decline in adults and to some degree this patient did show a decrease in mental activity. In individuals with idiopathic epilepsy it may be well to keep in mind the possibility of hypoparathyroidism, particularly

the idiopathic variety, where one is not aided diagnostically by an evident thyroidectomy scar.

Case IV (LGH 44,284). W. C., a 35 year old single white female was admitted to the hospital on 9/15/50 for the removal of a toxic diffuse goiter. Symptoms of hyperthyroidism had been present for several months and the patient had been prepared medically for operation. Physical examination on admission revealed a moderate degree of exophthalmus, a firm, diffuse enlargement of the thyroid gland, and a slight tremor of the hands. On 9/19/50 a

8 grams of calcium lactate powder and a low phosphorus diet. On 9/30/50 the calcium was 8.7 mgs. but the phosphorus was still elevated to 6.25 mgs., so that AT-10 was increased to 4 cc. daily and aluminum hydroxide gel added. On 10/4/50 the patient was free of symptoms, Chvostek's and Trousseau's signs were negative, and the calcium was reported as 8.8 mgs. with the phosphorus 3.7 mgs. The patient was discharged on 2 cc. of AT-10 daily, 50,000 units of vitamin D, oral calcium, and diet. Over the next four months the patient was fol-

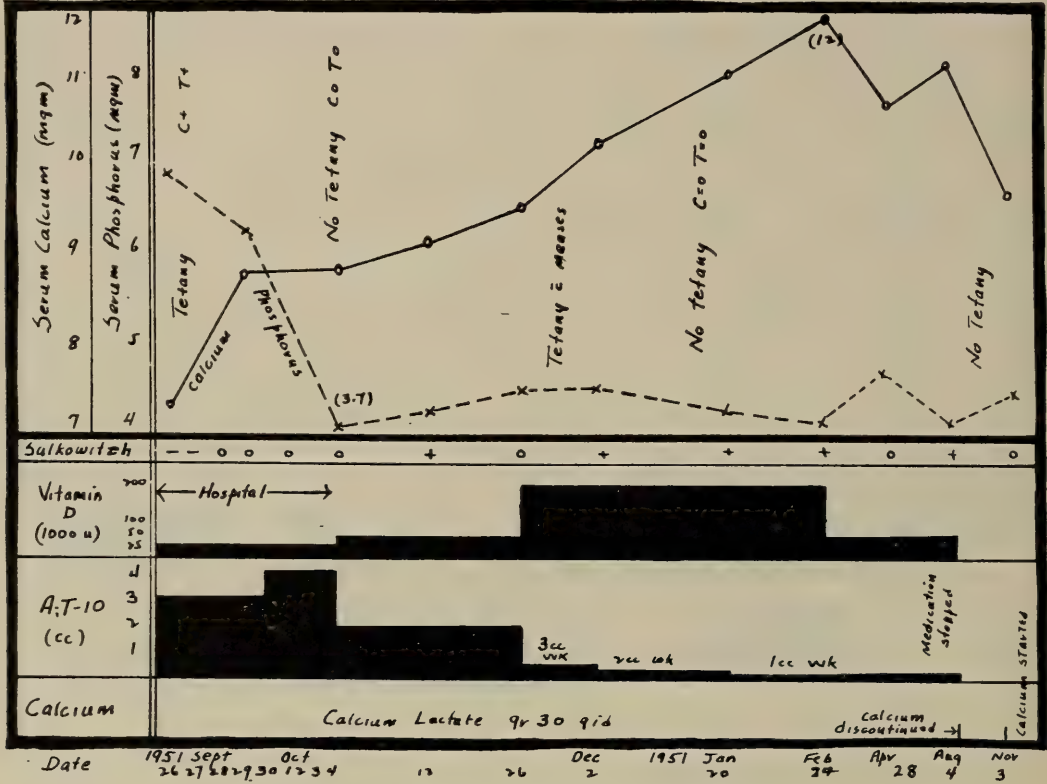


Chart IV.—Case IV (W.C.) Graphic outline of therapy.

subtotal thyroidectomy was performed without apparent operative difficulty.

Two days after the operation, on 9/21/50, the patient noticed drawing of the hands and face; and for the next several days she received repeated intravenous injections of calcium, 30 grains of calcium gluconate orally, and 5 drops of viosterol daily.

On 9/26/50 the patient demonstrated markedly positive Chvostek's and Trousseau's signs, the calcium level was 7.3 mgs. with the phosphorus 6.9 mgs., and the Sulkowitch reagent revealed a decrease in urinary calcium.

Therapy was initiated with 3 cc. of AT-10 and 50,000 units of vitamin D daily, supplemented with

lowed with gradual reduction in the dosage of AT-10 and an increase in vitamin D. On 1/20/51 the serum calcium was 11.2 mgs., and the phosphorus 4.3 mgs. The patient had had no further tetany, and she was placed on 2 cc. of AT-10 weekly with 200,000 units of vitamin D daily as well as oral calcium and diet. One month later the calcium level had risen to 12 mgs., so that over the next several months the amounts of AT-10 and vitamin D were reduced. On August 4, 1951, the blood calcium was 11.1 mgs. and the phosphorus 3.5 mgs., so that all medication was reduced. Two months later when the calcium had fallen to 9.5 mgs., oral calcium was reinstituted, with no other medication.

The patient has remained free of symptoms, and her examinations have been essentially normal. She leads an active life as a stenographer and pursues her regular business and social activities. Chart IV illustrates this patient's clinical and therapeutic course.

The acute onset and control of parathyroid tetany following thyroidectomy is illustrated by this case. While often tetany in such instances lasts only a short while, this instance proved relatively severe and has persisted for over a year. It may be wise to keep specific medication to a minimum in these early cases to forego the possible danger of suppressing any remaining active parathyroid tissue. It is hoped that possibly this patient will regain a good amount of parathyroid function, but a considerable period of observation will be necessary. This patient does not appear to have as severe parathyroid deficiency as the preceding cases, but the fall of blood calcium while on no therapy during the latter part of her course, over a year after operation, makes one feel that there must be some definite parathyroid deficiency with latent hypoparathyroidism.

SUMMARY

1. The etiology, clinical symptoms, differential diagnosis, and treatment of chronic hypoparathyroidism have been discussed.
2. The varied and often bizarre clinical picture of chronic hypoparathyroidism has been emphasized.
3. Dihydratichysterol or AT-10 is physiologically the drug of choice but often for financial reasons vitamin D is used and a combination of the two is usually found adequate.
4. AT-10 and vitamin D should be supplemented with oral calcium and a low phosphorus diet. While thyroid extract and aluminum hydroxide gel may be of additional value, it is strongly emphasized that the patient's regime be made as simple as possible, the malady usually being a life-long condition.
5. Four case histories illustrating some of the more unusual clinical symptoms have been presented.

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New Method of Treating Bell's Palsy.

A new, rapid way of treating Bell's palsy, by local anesthetization with procaine hydrochloride of a small group of sympathetic nerve cells in the neck, was reported in the September 6 *J.A.M.A.*

Bell's palsy, a usually innocuous but psychologically distressing disease, is the distortion of the face as a result of paralysis of the muscles on one side of the face. The cause of most cases of the disease is unknown, and treatment has been generally unsuccessful. Although recovery is usually spontaneous, it is long delayed in many instances, causing psychological and economical difficulties.

According to the author of the article, Dr. Daniel M. Swan, Quincy, Mass., the drug is believed to

cause the blood vessels to dilate, improving circulation and easing the paralysis. The success of this new method of therapy suggests that the blood vessels play an important role in the causation of the disease, confirming a previously believed theory, he added. Dr. Swan is physician-in-chief of the department of medicine, Quincy City Hospital.

Dr. Swan reported on two cases of Bell's palsy treated by this new method. Both patients recovered about 80 per cent of the use of the affected face muscles after several such treatments, and complete recovery was noted within two months. This return of facial function, he said, was more rapid "than could have been expected in the natural course of the disease, even with the application of the best previously known therapy."

MESENTERIC ADENITIS COMPLICATED BY MULTIPLE SEGMENTAL INTUSSUSCEPTION OF THE SMALL INTESTINE

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and

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A case in which both mesenteric adenitis and intussusception occurred spontaneously is presented.

B.M.H., a four year old female, was seen on July 3, 1951, in the home because of abdominal cramps and fever. The mother stated that on July second the child woke up complaining of abdominal pain which was localized above the navel and intermittent in character. Several times during the day the child came in from play, crying with abdominal pain of several minutes duration, after which she felt perfectly well and went out to play again. There was no nausea or vomiting. The appetite was good and daily bowel movements were described as normal in appearance.

She had several attacks of abdominal pain during the night of July second.

Past history: The child has been well since birth and has had frequent periodic routine examinations by her family physician in another city. She was fitted with glasses for strabismus.

In April, 1951, just before moving to this city, she was examined by her doctor because of rectal itching and a diagnosis of pinworms was made and treatment given. After the course of therapy the itching stopped. No pertinent physical findings had been noted by the mother except that an umbilical hernia, present since birth, seemed to be larger and more tender since the onset of the present illness.

Examination on July third was essentially negative except for a temperature of 101, enlarged red tonsils and an inflamed throat. There was little cervical lymphadenopathy present. The abdomen was negative except for a small reducible umbilical hernia. Aureomycin 50 mgs., every four hours, and hot gargles were prescribed.

The next day, July 4th, the temperature in the morning was normal and the child felt well enough to go out-of-doors to play. However, she again came home several times screaming with abdominal pain.

When the paroxysm had subsided, she seemed normal to the mother. She ate a light lunch which she retained.

In the evening, the paroxysms of pain became more frequent and she was brought to St. Luke's Hospital for observation at 7:00 P.M. Examination showed a well-developed and well-nourished four year old girl, complaining of pain in her abdomen. The attacks were periodic, lasting twenty to thirty seconds. The child preferred to lie on her side with knees drawn up. The temperature was 101.4°, Pulse —130; Respiration —24.

EENT: Internal strabismus, right eye. Mucous membranes dry. Throat inflamed. Tonsils enlarged and inflamed. No exudate. A few small cervical lymph nodes palpable. Neck not stiff.

Chest: Clear to percussion and auscultation.

Heart: Normal. Rate rapid.

Abdomen: Tender in all quadrants, especially the lower right, with moderate rigidity of the muscles. No masses palpable. Auscultation revealed hyperperistalsis. A small reducible umbilical hernia was present.

Rectal: No mass felt. No blood noted.

W.B.C. 10,000; 76% polys., 24% lymphocytes.

Urine negative except for rare red cells and crystals.

At 9:00 P.M. an exploratory laparotomy was done through a small right rectus muscle-splitting incision. The peritoneal cavity was entered without difficulty. The cecum was delivered into the wound, revealing a normal appendix. The cecum was replaced and the terminal ileum examined for a possible Meckel's diverticulum. It was noted that many enlarged lymph nodes, the largest being the size of a lima bean, were in the mesentery of the small intestine. About eighteen inches from the ileocecal valve, the small intestine was found telescoped into itself for approximately two inches. This intussusception was reduced by gentle traction and milking, revealing a pale area of edema and thickening on the antime-

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sentric wall of the bowel. The presence of a worm in the lumen of the small intestine was disproved by holding apart the lateral walls of the bowel and palpating in an anterior-posterior plane. Further exploration of the intestine revealed a similar area of intussusception approximately six inches above the first, and still a third six inches proximal to the latter. The bowel was traced to the ligament of Treitz. After replacing the small intestine, the appendix was removed; the stump was inverted with a purse-string suture of silk. A purse-string of silk was also placed around the neck of the umbilical hernia sac, closing it off. The abdomen was closed in layers.

On returning to her room the patient was given 300 c.c. of 5% glucose in Ringer's solution subcutaneously; 300,000 units of crysticillin were given intramuscularly daily for four days. Her post-operative course was uneventful—the temperature dropping to normal on the second day. She was discharged from the hospital on the seventh post-operative day. A careful search for pinworms or other parasites or ova in the stools was negative. Follow-up studies showed the child to be entirely well and there has been no recurrence of abdominal pain.

DISCUSSION

Intussusception is the telescoping of one portion of the small intestine or colon into a more distal segment of the enteric tube. It is most frequently seen in infants, the peak occurring from the third to the eleventh month. In an extremely large percentage of cases (90-95%) the etiological agent is unknown¹. In the most common type of intussusception the ileum telescopes into the colon. Jejuno-ileal, ileo-ileal, and colic-colic types may also occur, but are a much rarer finding.

The symptom of severe recurrent colicky pain in the abdomen causes the infant or child to draw up his legs and is generally accompanied by vomiting. The passage of bloody stools occurs in a large percentage of cases, usually twelve hours after the onset of the initial symptom. Palpation of a mass, described as sausage-shaped in configuration, and the presence of blood on the finger on rectal examination are important clinical signs.

Acute non-tuberculous mesenteric lymphadenitis which is frequently seen in children mimics appen-

dititis. Postlethwaith and Campbell² reviewed the records of 1,604 patients at the Duke Hospital who underwent appendectomy for signs and symptoms of an acute condition within the abdomen. One patient in six in this series had mesenteric lymphadenitis. In this case, the findings of mesenteric lymphadenitis and intussusception of the small intestine lead us to think that the same etiological agent which had affected the mesenteric lymph nodes had also caused swelling of the lymphoid tissue of Peyer's patches. These swollen areas then acted as a foreign body, causing the bowel to telescope on itself in three separate and distinct locations. It would have been of great academic interest to open, inspect and biopsy these areas of the bowel. Such procedure was not justified as resection was not indicated by the condition of the bowel, nor would it have been in the best interest of the patient.

In 1951 O'Sullivan and Child, in a paper entitled "Ileocecal Intussusception Caused by Lymphoid Hyperplasia", reviewed the literature and presented two cases. The first case was that of an eleven month old female who was explored for an ileocecal-type of intussusception. After reduction it was noted that the distal ileum disclosed a 2x3 centimeter mass which was thought at first to be a foreign body. It could not be dislodged. However, on opening the bowel a swollen hemorrhagic Peyer's patch was found. Because of the size of the mass, 5 centimeters of the ileum were resected and ileocecostomy performed. Gross and microscopic studies supported the clinical impression and showed a sharply demarcated Peyer's patch.

The second case was that of a 4½ year old male who four days prior to admission had a cough with evidence of an upper respiratory infection. Operation, performed because of marked right lower quadrant tenderness, revealed an ileocecal intussusception. After reduction, a tumor mass involving the entire wall of the terminal ileum was found. The bowel was resected with end to side ileocecostomy. The pathology report of the specimen showed numerous small white submucosal nodules, 2 mm. in diameter and thickening of the entire bowel wall. Microscopically the glandular mucosa of the specimen was normal. Within the submucosa, many hyperplastic lymphoid follicles were found which had grown to such an extent that the overlying mucosa was stretched to a single layer of cuboidal epithelium.

Both of these cases of O'Sullivan and Child made uneventful recoveries.

It is our belief that our case exhibited, to a lesser degree, pathology similar to that of the cases quoted above. The finding of three distinct and separate areas of intussusception in the small intestine makes this a unique case.

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Medical Mediation Committees Now Functioning in All States.

A major goal in the medical care program for the United States has been reached with the establishment of mediation committees in each of the 48 states, the District of Columbia and Hawaii, according to a statement issued by the Council on Medical Service of the American Medical Association.

The establishment of these committees is the result of a four-year campaign for the creation of such patient-physician relations bodies. The committees investigate complaints concerning the professional conduct and ethical deportment of individual physicians and attempt amicable adjustments.

The council also reported that voluntary health coverage continues to gain both in quality and quantity. It was estimated that by 1953 approximately 90,000,000 persons will be covered by some form of protection against the costs of illness, accident and hospitalization.

In addition, the council reported, community health councils have increased from 48 in 1943 to 1,190 in 1951, and have shown substantial gains during the last year; 12 indigent medical care studies have been made under the direction of the council, and plans are being formulated for nine others;

placement services for physicians have been established in 37 states, and approximately 600 communities now have emergency medical call systems.

Warn Against Prolonged Use of Estrogen Creams.

Continuous absorption by older women of small amounts of estrogens over a long period of time, such as could be obtained through the use of estrogen creams, may affect the female organs, in the opinions of Drs. Minnie B. Goldberg and Franklin I. Harris, San Francisco. The doctors are associated with the divisions of medicine and surgery, Mount Zion Hospital.

"If estrogen creams continue to be sold over the counter without prescriptions, it should be mandatory that the label bear a warning advising intermittent and not continuous use, as well as a statement recommending a limitation of quantity to be used," the doctors wrote in the October 25 J.A.M.A.

They reported on a case of a 40-year-old woman who used estrogen creams and lotions on her face, neck, arms and legs for many months. The natural absorption of estrogen through the skin resulted in an excessive thickening of the lining of the womb and heavy vaginal bleeding, the doctors stated.

FATAL APLASTIC ANEMIA FOLLOWING CHLORAMPHENICOL (CHLOROMYCETIN ®)

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Blood dyscrasias have been reported due to a great number of drugs and chemicals, particularly those containing the benzene ring. It seems necessary to add Chloramphenicol to these. A total of eight cases of depression of the bone marrow following the use of Chloramphenicol have been reported^{1,2}. Two of these have been fatal. To these our fatal case of aplastic anemia following Chloramphenicol is added.

CASE REPORT

Mr. M. G., a 53 year-old white male, was first admitted to the Mary Washington Hospital, 2/22/51, for the treatment of a urinary tract infection of about three weeks' duration. He had been treated in the office with control of pyuria with Chloramphenicol, but with recurrence as soon as the drug was stopped. An intravenous pyelogram, 2/5/51, was normal. Past history revealed that he had had a kidney stone removed three years ago; otherwise, his health had been good. He had an operative right lumbar scar, and an undescended left testis; otherwise, physical examination was negative. He was afebrile. Laboratory studies: Urinalysis microscopic, 20-25 W.B.C. per/h.p.f. cent.; albumin, trace; sugar, negative; urine culture for tubercle bacilli, negative. Blood: W.B.C., 5,400; hbg., 16.2 grams; diff. polymorphonuclears, 59%; lymphocytes, 41%. The blood Kahn was negative.

Cystoscopic examination showed generalized hyperemia and congestion of the bladder, especially at the base.

He was treated with Chloramphenicol, and discharged 2/26/51, continuing treatment after discharge.

SECOND ADMISSION, 7/16/51: Since the first admission the patient had been seen many times in the office, having been treated almost continuously with Chloramphenicol. Each time the drug was stopped pyuria returned. The physical examination was again negative except for the undescended left

testis. Laboratory studies: Urinalysis, specific gravity, 1.014; albumin, negative; sugar, negative; microscopic, 2-3 W.B.C. per/h.p.f. cent. Blood, W.B.C., 9,950; hemoglobin, 15.8 grams; differential, polymorphonuclears, 76%; lymphocytes, 22%; monocytes, 2%.

The undescended left testis and cord was removed, hoping that a focus in the epididymis might relieve the recurrent pyuria. Convalescence was uneventful, and he was discharged 7/23/51.

THIRD ADMISSION, 8/15/51: Since the previous admission the patient had again had recurrence of pyuria, and had again been treated with Chloramphenicol. Physical examination was again negative. Laboratory examination: Urinalysis, specific gravity, 1.023; microscopic, innumerable white blood cells; 6-8 red blood cells; albumin, negative; sugar, negative. A gram stain showed many pus cells, but no organisms. The blood studies showed the white blood count to be 3,950, with the hemoglobin, 15.2 grams, with a differential count of 41% polymorphonuclears, and 59% lymphocytes. A notation was made that the lymphocytes appeared normal.

Intravenous pyelograms showed the left urinary tract normal; the right showed slight dilatation of the upper collecting system, and there was a partial block at the ureteropelvic junction which was thought possibly due to a stricture at the site of the previous nephrolithotomy. Cystoscopic examination of the bladder was not particularly remarkable. The patient was discharged 8/20/51.

FINAL ADMISSION, 11/5/51: Starting about ten days before this admission he noticed increasing fatigability, shortness of breath, and headaches with exertion. He had taken Chloramphenicol in doses ranging from 100 milligrams to 250 milligrams, four times a day, and occasionally 500 milligrams, four times a day almost continuously since January, 1951. From January, 1951, to April, 1951, he had taken

sulfonamides intermittently. In June and July he had taken a mandelic acid preparation (Elixir of Mandechlor ®) for approximately six weeks. Six weeks before the final admission he had taken Aureomycin, 500 milligrams, four times a day, for about ten days. Following this he resumed treatment with Chloramphenicol. Careful questioning revealed that he had taken no other drugs, headache powders, aspirin, or sleeping tablets. Physical examination revealed marked pallor, and generalized purpuric petechia of the skin and mucous membranes, but was, otherwise, not remarkable. The blood pressure was 130/90. Examination of the blood showed a white count of 1,700; hemoglobin, 5.8 grams; differential, 11% polymorphonuclears, including one juvenile form; 87% lymphocytes, and two monocytes. The blood smear showed the platelets to be greatly diminished in number. The urine was loaded with pus, but showed only 4-5 R.B.C. A trace of albumin was present; the sugar was negative; specific gravity, 1.016.

Bone marrow the day after admission showed no megakaryocytes or platelets, and there was marked hypoplasia of both the red cell and granulocytic series.

The patient's condition deteriorated steadily in spite of many blood transfusions, Penicillin, and Cortisone. Purpura and hemorrhages from the gastro-intestinal tract became increasingly more severe. The white blood count continued to run about 2,500 to 3,000 W.B.C. Another marrow examination showed very marked pancytopenia. On 11/21/51, he had a convulsion, followed by coma, stertorous breathing, and a blood pressure of 210/100, apparently due to a cerebral hemorrhage. The coma deepened, and he died 11/22/51. Permission for autopsy was refused.

DISCUSSION

While it is not absolutely certain that Chloramphenicol was the cause of the fatal aplastic anemia in our case, we think that the evidence is so strong that it should be so considered. In the fatal case of Rich *et al.*¹ Chloramphenicol had been given for twelve weeks before the onset of purpuric manifestations. In the case Wilson *et al.*² the drug had been given for twenty-eight weeks before the onset of

symptoms. Our patient had taken Chloramphenicol intermittently, but fairly regularly, for ten months before there were definite symptoms, although three months before a blood count had shown only 3,950 white blood cells, with a differential count of 41% neutrophils, and 59% lymphocytes. Cognizance of the possibility of depression of the bone marrow by Chloramphenicol might have made us suspicious of this blood count, and might have prevented the fatal outcome in our case.

Of the six non-fatal cases of depression of the bone marrow, one was reported as early as two days after the first administration of the drug. Others were nine days, twelve days, eighteen days, nineteen days, and twenty-six weeks.

SUMMARY AND CONCLUSION

A fatal case of aplastic anemia following the prolonged administration of Chloramphenicol is reported, with a brief review of the literature. The medical profession should be cognizant of the possibility of depression of the bone marrow by Chloramphenicol (Chloromycetin ®), and periodic examination of the blood should be made when it is administered.

ADDENDUM

Since the preparation of this paper eleven additional cases of fatal aplastic anemia attributed to Chloramphenicol have been reported^{3,4,5}.

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OFFICE TREATMENT WITH SUBCOMA INSULIN AND TRAINING IN DIVERSION—

An Analysis of 105 Consecutive Cases*

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Report is being submitted of the results on 105 consecutive patients chosen for a brief course of subcoma insulin given in the office simultaneously with habit training in appropriate recreation and diversion. Attention is called to the usefulness of this procedure in anxiety states (tension states) and the resulting physical complaints and diseases.

The successful use of subcoma insulin for anxiety states in psychiatric hospitals is well established. Very satisfactory results were reported in 1949 by Gayle, Neale, and Cheek of Richmond¹, by Martin², and by Bedell³. Other similar reports were made by Kelly and Thompson in 1947⁴ and by Carnat, *et al.*, in 1948⁵. These reports were all on hospitalized patients. Cohen reported in 1949 successful treatment of mental illness at home with small doses of insulin⁶. In May, 1951, Robert J. Van Amberg reported to the convention of the American Psychiatric Association his good results on 50 cases of anxiety states treated in his office with insulin subcoma⁷.

Insulin has been found effective in the treatment of numerous physical disease entities, especially those known to involve general or local sympathetico-adrenal stimulation, some of which now are being treated by sympathectomy, vagotomy, or other operations. Recent reports of the successful use of insulin, either in small tonic doses or in subcoma doses, in the treatment of physical diseases include the following:

1. Thrombo-angiitis obliterans, reported by two groups^{8,9} in 1949.
2. Chorea minor, reported by Mayerhofer, *et al.*,¹⁰ in 1951.
3. Progressive muscular dystrophy in children, reported by Mayerhofer¹¹ in 1950 (early cases only).
4. Peptic ulcer. Carnat, in 1948, reporting on psychoneurosis treated with insulin given at subcoma levels, stated that eight cases also had peptic ulcer and, although not favored as to diet or special medication, improved clinically and radiologically

on this insulin regimen⁵. Jones, in 1934, reported successfully treating peptic ulcer with much smaller doses of insulin¹². Cathcart and Laidlaw are continuing this use of small doses of insulin for peptic ulcer as an auxiliary to psychotherapy¹³.

5. Rheumatoid arthritis, reported in 1950 by Kersley *et al.*¹⁴, and by Gordon and Weitzner¹⁵. The use of insulin with cortisone was reported by Henderson *et al.*¹⁶, in 1951.

6. Psychosomatic disorders in general, using subshock levels, reported by Sadler and Rubin¹⁷ in 1950.

7. Tuberculosis with anorexia, reported by Morgenstein and Dewing¹⁸ in 1949. Insulin greatly ameliorated neurotic reactions and resulted in marked gain in weight.

8. The use of insulin in small tonic doses for malnutrition of sundry types including that of post-alcoholic state and especially that of anxiety reactions or tension states long has been used and is described in many textbooks^{19,20,21}.

During the past five years the writer has treated several hundred patients with insulin in relatively small or "tonic" doses in conjunction with practical psychotherapy including coaching in how to spend spare time. Results usually have been gratifying, not only in relief of anxiety and of nervous disorders, but especially in the relief of many and varied and often intolerable physical complaints. Doses and methods were highly variable. Insulin was given to some in the office with brief therapeutic interviews, while others received the insulin at home. There were no untoward occurrences and none are to be expected in patients who have been studied fully and who have been coached adequately as to frequent feedings, and who are not too neurotic to recognize hunger. All patients chosen for this treatment carried physical evidence of sympathetico-adrenal stimulation. Most of them were underweight. Nearly all benefited. In some cases of long duration it was found advisable to give the large doses of insulin necessary for subcoma, and these cases are included in the tabulation offered. Since tolerance

*Read before the Seaboard Medical Association of Virginia and North Carolina at its annual meeting at Virginia Beach, Va., December 6, 1951.

to insulin already had been established, effective levels of insulin subcoma could be obtained from the first.

Another extensive use the writer has made of insulin not tabulated as subcoma was as an aid to heavy feeding of alcoholics coming off a spree, to a total of 57 patients as of November 1, 1951. Most of these patients otherwise would have needed hospitalization. Many of these were threatened with delirium tremens. Heavy feeding with the aid of insulin was given during six to ten hour periods spent in the office, patients being kept all the while very busily playing cards or at other active diversion. In such starved cases, with glycogen depletion, safety demanded that the initial dose of insulin be very small, often as little as ten units although patient was to remain under the constant watch-care of a nurse. Two or three hours later, after patient was eating well, much more insulin was given. In many cases it was necessary to give intravenous glucose (10% in a liter of Ringer's solution). Usually the patient would eat within the six to ten hour period a loaf of bread together with other food. In many cases after one or two days of this treatment, patient resumed work, thus saving his job. Thirty-five of the more severe cases received in addition two or more subcoma treatments and these are included in the tabulation of subcoma offered. As their tolerance for insulin already had been established, effective levels of subcoma were readily obtained.

The selection of cases of all types to be given insulin with simultaneous training in diversion was based upon the following criteria:

1. Without the aid of subcoma insulin patient could not be depended upon to respond quickly to coaching in habit training and other forms of brief psychotherapy.
2. Careful psychiatric study for two or more hours indicated that patient probably would benefit from subcoma insulin with coaching in diversion. Sixty-five of the 105 cases had been advised to enter a psychiatric hospital or advised to take electric shock therapy but had refused. Rather than let them grow worse for lack of effective treatment they were given subcoma insulin. (Only 11 of these have since been admitted to a psychiatric hospital). Subcoma insulin was not refused unless prognosis appeared almost hopeless.
3. Careful examination and laboratory work in-

dicated patient could safely take subcoma insulin on the technique used. All decisions were upon clinical judgment; there were no "rules".

In the tabulation below the term good result was confined to patients who made a definite industrial recovery, or, in the case of housewives, those who exhibited ability to carry appropriately their responsibilities as wives and mothers. The term fair result was used for all other patients with enough improvement to justify the treatment given. Most of these resumed employment.

As the tabulation shows, the average treatment was for 8.6 days. In most instances it was believed that more treatment was advisable. However, treatments were terminated early for various reasons: In many cases because the patient considered he had recovered; in many cases because the patient's greatly improved appearance resulted in his finding immediate employment; in some cases because of lack of finances; in some cases because the patient was too neurotic to tolerate the relatively transient and mild discomfort of hypoglycemia. Some schizophrenic patients, while consciousness was dulled by hypoglycemia, became unmanageable; and some became negativistic as regards taking food to terminate the hypoglycemia. (Such schizophrenia cases are not suitable for office treatment with subcoma insulin). The above several reasons for brevity of treatment also caused treatments to be interrupted and irregular. In some cases after patient resumed employment, a few more days of treatment were given on Saturdays or other days on which patient was not working.

The techniques used in giving subcoma insulin is somewhat similar to that described by the workers listed in the bibliography but with certain innovations. The patient receives a single injection of insulin each day. The daily average dose for the 105 cases was 109 units of regular insulin. The first dose is usually 25 to 30 units in young physically sound persons known to be eating adequate amounts of carbohydrates, and in such persons the insulin often is increased that much each day until subcoma effects are obtained. The patient reports without his breakfast and prior to 8:30 A.M. After blood pressure and temperatures have been taken by the nurse, the physician carefully examines patient and calculates the dose of insulin capable of producing coma within three hours and injects it intramuscular-

TABULATION OF 105 CONSECUTIVE CASES CHOSEN FOR AND GIVEN A VERY BRIEF COURSE OF SUBCOMA INSULIN SIMULTANEOUSLY WITH HABIT TRAINING IN APPROPRIATE RECREATION AND DIVERSION:

	Average number days of subcoma including days of building up to an effective dosage	Number of Cases	Good	Results Fair	Poor
1. Anxiety state including reactive depression	7.	32	29	2	1
2. Anxiety state complicated with chronic alcoholism	6.1	20	17	2	1
3. Other more involved and more fixed neuroses	11.2	17	1	10	6
4. Same as No. 3 complicated with chronic alcoholism	7.3	11	1	6	4
5. Schizoid personality with chronic alcoholism	7.7	4	—	1	3
6. Schizophrenia	13.6	14	6	6	2
7. Active manic depressive psychosis, depressed type	10.1	4	2	—	2
8. Involutional melancholia	7.	1	—	—	1
9. Mental deficiency with schizoid reactions	8.5	2	—	2	—
Total	8.6	105	56	29	20

All patients were treated daily in the doctor's office for a six or seven hour period.

All cases treated with two or more days of subcoma insulin are included in this tabulation.

ly. Coma is prevented practically always by the constant watch-care of the graduate nurse. However, there is kept always ready a sterilized 50 cc. syringe for injecting glucose and also a stomach tube.

Hypoglycemia is terminated promptly in any of the following events:

1. When patient becomes too stuporous to subtract a digit from 100.

2. When a threatened convulsion is suggested by hyper-ventilation or by muscle twitching.

3. When there is suggestive evidence of poor heart action.

The innovations which the writer has presumed to make in the technique of subcoma insulin are as follows:

1. Its use in the doctor's office to patients living at home. This permits efforts at treating the whole family.

2. Use of two ounces of corn syrup, such as crystal white Karo, with water and lemon juice to make 10 ounces of a palatable lemonade in initiating the termination of hypoglycemia instead of the large amounts of heavy concentration of sugar described by others. This innovation avoids the nausea so often associated with subcoma insulin. Patients

then eat, usually quite ravenously, a fat-free sandwich made to their taste every 10 or 20 minutes to a total of four or more before 3 P.M. They are urged to continue frequent feedings until bedtime and are further urged to be quick to telephone if they become concerned.

3. Patients are not allowed water prior to termination of hypoglycemia, and thereafter only enough fluids to quench thirst. This appears to prevent the rather high incidence of seizures reported by some workers.

4. Patients are not routinely required to sign a waiver of responsibility because after careful examination and selection of cases and with careful watch-care, there is no serious hazard; and because such timidity would interfere markedly with treatment by tending to increase anxiety. (See untoward occurrences below).

The office procedure is safe if adequate precautions are taken. As given in the writer's office, precautions include:

(1) Requiring patient to remain six hours or more after insulin is given.

(2) The doctor holding himself accessible by not being subject to emergency calls.

- (3) Keeping the patient under constant alert watch-care of an experienced graduate nurse.
- (4) Using the services of a qualified technician for all indicated work.
- (5) Watch-care for carotid sinus manifestations, especially in diabetics²².

5. Patients are kept out of bed and busily playing cards or other table games throughout the six or seven hours spent in the doctor's office except for about two hours of frank hypoglycemia. The conventional rather futile efforts to have patients sleep while in bed are avoided and they are encouraged to carry on a lively conversation. They often have an uproarously good time and "wise-crack" about their personality short-comings. Husbands and wives are encouraged to come in order that he or she and the patient may learn to play games together. All this constitutes a school or course in recreation and diversion, something sorely and vitally needed by all these patients. Each day before leaving each patient is given a period of individual psychotherapy and is instructed zealously to spend the rest of the time until late bedtime at play or at work of any type which will take his undivided attention, if possible in the company of others.

Among the 105 cases treated with subcoma insulin there were the following untoward occurrences:

1. While apparently recovering from his psychosis, the case of involuntional melancholia (without prodromal or previous gastric symptoms) had a perforation of stomach. Following prompt surgery he recovered physically; but during hospitalization his psychosis returned, and he was placed in a state hospital. A search of the literature revealed no mention of such perforation during subcoma nor even during coma insulin, and it appears proper to consider this merely a deplorable coincident.

2. Six days after coming off an alcoholic debauch and while taking subcoma insulin, a patient had hematemesis requiring hospitalization. Diagnostic studies did not reveal any possible source of the bleeding. As cirrhosis was present, it should be presumed that bleeding was from varicosities of the esophagus. In any case, it is well known that hematemesis is of frequent occurrence in alcoholics. It is not listed by writers as a complication of subcoma insulin.

3. Six patients being treated, following alcoholic debauches, developed seizures. These admitted having

previously had seizures following other alcoholic debauches (when insulin had not been used). Such post-alcoholic seizures are not very unusual. In addition, there were seizures in two cases with active schizophrenia, in one case of conversion hysteria and epilepsy, and in one case of chronic anxiety state. Although such seizures are probably as beneficial as if induced by electric shock therapy or by metrazol, the practice of limiting fluids was initiated and no further trouble of such nature was experienced.

In searching the literature the writer could find no mention of fatalities occurring as a result of subcoma insulin in sane nor in borderline persons. However, in 1948 Sullivan²³ reported a fatality under subcoma insulin being administered twice daily with rather heavy sedation, to a case of schizophrenia in acute exacerbation, overactive, hallucinating, and negativistic. Malamud²⁴ more fully reported this fatality, and added another in 1948 in a case of acute psychosis and delirium tremens of nine days duration who received an initial dose of 50 units of regular insulin, administered as a tonic and not for subcoma. In the writer's long experience such cases nearly always are feeding problems, prone to carbohydrate depletion, and unsuited for such vigorous treatment with insulin. Certainly such procedures would not be considered for office treatment.

Results of treatment with brief subcoma insulin simultaneously with training in diversion seem surprisingly good when consideration is given to the following facts:

1. The types of cases treated, practically unselected as to diagnosis and as regards unfavorable prognosis.

2. The small number of treatments per patient (average 8.6).

3. Irregularities in treatments necessarily incident to extramural patients, attendance being subject to whims of patients and of relatives.

The poorest results were in the group designated "Other more involved and more fixed neuroses" which, with the 11 alcoholics, consisted of 28 chronic and uncooperative patients, most of whom exhibited much evidence of conversion hysteria. These are the patients who make a physician very unhappy. They never have been considered suitable for treatment with subcoma insulin; but there was a keen desire on the part of the writer to learn whether the training in recreation and diversion would produce

substantial improvement. This group included all cases with more complicated neurotic patterns of behavior, not the simple psychologically and physiologically explainable ones included under "anxiety state, including reactive depression". Their symptoms often included anesthesia or paresis of a limb or side, or other stigmata. Symptoms usually were due to inhibitions rather than to over-stimulation and resulting fatigue. All 28 in this group showed an inappropriate degree of self-pity. Their reactions and reasonings, their patterns of feeling, thinking, and acting were of those many rather unpsychological types which tempt many workers to postulate and zealously seek some "complex" hidden in the hypothetical "unconscious". Patients in this group exhibited little evidence of a sincere desire to get well. Such patients are prone to stop treatment of any type long before satisfactory results can be expected, and this occurred with the writer's group. In such cases improvement of 18 out of 28 seems more than might be expected from so few days of treatment usually irregularly taken. Thus it appears evident that training in recreation and diversion did make a substantial difference.

The 14 cases grouped as schizophrenia included five in fair remission. Nine were very definitely psychotic but hospitalization was not accepted. They were given subcoma insulin in preference to allowing them to remain untreated. Only two of these subsequently entered a psychiatric hospital. In view of the brevity of treatment (average 13.6 days), the results tabulated seem surprisingly good. Again, it appears evident that training in recreation and diversion made a substantial difference.

Of the four cases of definite manic depressive psychosis, depressed type, one made a rather spectacular recovery on ten days treatment. One patient, who had fractured her ankle immediately following electric shock therapy, showed a tendency to relapse. This was prevented by eight days of subcoma with training in diversion. The remaining two patients repeatedly stopped coming as soon as they noted some improvement. In the end, they were admitted to a state hospital.

The one case of involutional melancholia (hospitalized) is discussed above.

All those in the groups of alcoholics who were given brief subcoma insulin following a day or two of heavy feeding (35 cases) had findings routinely

considered indications for hospital care. When first seen, most of them had visual hallucinations. Three were hearing voices and three had delusions. Of these 35 alcoholics only four subsequently entered a psychiatric hospital. Nearly all of the group resumed employment and are now believed to be working. In view of the poor condition of these patients and the brevity (average 6.7 days of subcoma) and irregularity of their treatment, results appear good, probably in large part because of training in diversion.

The group of 52 cases designated "anxiety state", including 10 cases with reactive depression and 20 with alcoholism, were selected for subcoma from several times this number of patients with anxiety state and resulting physical complaints. They were selected for subcoma insulin because they were believed to be not readily curable by the routine psychotherapy and habit training which was described in a former communication.²⁵ That is to say, they were not the milder and more transient cases of anxiety state often designated "tension state" which usually will get well anyway if not advised to take a rest cure nor sent to work full of sedatives, nor otherwise mishandled by the doctor, chiropractor, psychologist, or other type of practitioner; and if the patient is not forced to a habit of introspection by reading some book or article expounding some swivel chair doctrine or system of cure.

This group of 52 cases placed together under the title "anxiety state" included all those cases in which the major finding was habitual alarm reaction (sympathetico-adrenal stimulation) with physical and nervous symptoms caused by over stimulation or by the resulting fatigue. All apparently had a keen desire to get well, hence were cooperative, and were relatively free of the more involved neurotic patterns of behavior. They varied in type from a frank reactive depression with suicidal tendencies to acute tension state with such complaints as tension headaches, muscle aches (especially of neck and shoulders), cardiac palpitation with extrasystoles, and "nervous indigestion". Such cases are diagnosed too frequently as having some organic disease whereas the emotional nature of the condition would be obvious if appropriate diagnostic studies were made.

All ten cases with reactive depression placed in the group designated "anxiety state" appeared proper candidates for prompt admission to a hospital for

psychiatric care because of their suicidal tendencies. These patients refused hospitalization, and rather than force them to go untreated, subcoma insulin was given. All these ten acutely ill people responded promptly and made industrial recoveries.

Cases of anxiety state as a whole responded promptly to subcoma insulin, and such patients are exceedingly gratifying to treat. Many stopped treatment after only a few days as they felt no further need of treatment.

It must be emphasized that subcoma insulin does not permanently cure. It does produce natural and desirable types of sedative and tonic effects and enables patients to build up new and more normal habits of behavior, such as result in a fuller more interesting and satisfying life. Like electric shock therapy it does help patients to quickly make necessary changes in their habits of feeling, thinking, and acting; and with adequate coaching enables them to develop quickly the full and interesting life of a cheerful wholesome person. Once the complete change is made, the patients are so thrilled and so appreciative of their abilities to live a full and rich life that they usually can be depended upon to retain the new habits and remain well.

It seems to be accepted that insulin is an antagonist for sympathetico-adrenal stimulation. In the writer's experience, when judiciously used, it is our most dependable drug, not only for satisfactory relief of tension states, but also for the numerous resulting physical complaints involving over-stimulation and resulting fatigue which affect practically every organ and system of the body.

The nervous and physical complaints which, in the writer's 22 years of psychiatric experience, are found to be produced solely by sympathetico-adrenal stimulation (alarm reaction) and which in his experience respond to treatments of subcoma insulin include the following complaints:

1. The usual "nervousness" by which the patient means tenseness, irritability, temper tantrums, restlessness, and sometimes tremulousness.

2. Inability to concentrate due to the ever present "brain storms".

3. Anxiety, a feeling of insecurity, apprehension, the expectation of future difficulties as judged by the past. This apprehension may be referable to physical illness or complaints, personality shortcomings, overt sins and crimes, family quarrels and

maladjustments. This apprehension also may be referable to inadequate earning capacity, oftenest resulting from habitual tense, discouraged, or friendless appearance.

4. Depression, crying spells, suicidal thoughts and attempts.

5. Insomnia, terrifying dreams and nightmares.

6. Most headaches including migraine, tension headaches, and other forms of nervous headaches.

7. Soreness of muscles, most typically of neck, trunk, and shoulders.

8. The usual forms of cardiac palpitation, extrasystoles, paroxysmal tachycardia, and the milder precordial pains. The alarm reaction produces either arterial hypotension or hypertension according to the flexibility of the arterioles with possible resulting physical complaints in either case.

9. The usual forms of anorexia with resulting loss of weight which becomes a new concern.

10. The usual forms of nutritional anemia, usually the result of emotional anorexia. Anemia increases other complaints and produces new complaints.

11. The usual forms of fainting or faintiness in children and in people of the "race horse" build. Such fainting appears to result primarily from relative or functional hypoglycemia, secondary to tension states and to functional anorexia.

12. The usual forms of indigestion including bloating, belching, regurgitation, vomiting, and the epigastric discomforts often expressed as pain. (Duodenal ulcer is believed by many to be only an end stage of "nervous indigestion" produced by hostility or other long protracted "brain storms").

13. The usual forms of constipation and attacks of diarrhea.

14. The usual forms of impotence and sterility, nearly always secondary to distraction with sources of anxiety and often increased by the resulting nutritional anemia.

15. The usual forms of menstrual disturbances, especially dysmenorrhea and delayed or missed menstruation.

16. The usual forms of pseudo-renal colic, incontinence, bedwetting, and many other urinary disturbances.

17. Periods of fatigue resulting from prolonged emotional stimulation. The presenting complaint is often quick fatigue, listlessness, or apathy. When these are the prominent complaints, the diagnosis is

prone to be neurasthenia, psychasthenia, neurocirculatory asthenia, or "nervous exhaustion".

In some patients there seems to be psychic inhibition of the amount of sympathetico-adrenal stimulation necessary to prevent allergic reactions and especially pseudo-allergy. These cases respond to insulin, possibly by its stimulating the production of adrenalin and cortisone. Many, if not all, neurological and physical diseases are influenced markedly by emotions. Especially is this true of epilepsy, as the writer brought out in a former report.²⁸

It should be noted that the writer has listed as being of emotional origin the usual complaints of the majority of patients seeking medical advice. Rest with sedation seems to cure or help these patients only when the complaints are essentially transient and in wholesome, stable personalities. In a high per cent of patients, that is, those with neurotic tendencies, such rest and sedation, by increasing the time spent in preoccupation with the sources of anxiety, tend to develop and confirm more definite neurotic patterns of behavior. Histories of onset of depression almost invariably include treatment with rest and sedation.

If a patient's complaints are the result of emotional stimulation and if there is not a prompt response to the treatment used, the excessive sympathetico-adrenal stimulation should be terminated promptly by the simplest effective measure. In the milder cases adequate ventilation and coaching may suffice. For quick and sure results many patients should be given insulin, preferably in vigorous subcoma doses, and preferably administered by those experienced with its use. For permanent results the patient must be coached adequately to live a full and interesting life and in this manner replace the time he otherwise would spend in painful ruminations of sundry types.

SUMMARY AND CONCLUSIONS

Subcoma insulin can be administered safely in the office if proper watch-care and precautions are used. Precautions must include thorough evaluation of the patient by examination, history, and all indicated laboratory work. Studies and evaluations must include any glycogen depletion and any existing impairment of liver, of kidneys, or of the cardiovascular system. The physician must be alert for carotid sinus disease, especially in diabetics. Patients dis-

ciplined to ignore hunger require much watch-care and coaching.

Insulin, whether used in subcoma or in small tonic doses, is a prompt specific for the numerous every day nervous and physical complaints caused by habitual sympathetico-adrenal stimulation (prolonged alarm reaction). The emotional source of such functional complaints should be recognized and treated promptly instead of temporizing with rest and sedation. When there is available no other prompt and effective treatment, insulin is indicated. During a period of improvement produced by insulin, the patient routinely should be coached and trained adequately to replace with interesting activities the time he has been spending in preoccupation with painful thoughts and he should be treated with other brief practical psychotherapeutic measures. Results should then be permanent. Prompt and frequent but judicious use of adequate insulin with practical psychotherapeutic efforts should eliminate many of our admissions to psychiatric hospitals, many of our surgical operations such as sympathectomies, and most of the prevalent illness and disability resulting from prolonged emotional turmoil.

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The P-R Corner

Psychologically, there's a jagged break in the ideal doctor-patient relationship when a patient with a minor ailment is dispatched with a prescription after one visit to the doctor. "How can the doctor tell

whether the medicine helped me or not?" wonders the patient.

Many doctors solve this problem by handing such patients self-addressed postcards and asking them to report on their condition in a day or two. It's a friendly "let me hear from you" gesture.

SOME DOCTORS OF THE GADSDEN PURCHASE WHEN ARIZONA WAS A TERRITORY*

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For the benefit of those who, perhaps, have not been so interested in Arizona as I have been, it may be well to throw some light on the title of this paper and to mention briefly certain historical and geographical facts concerning Arizona.

It will be recalled that the Mexican War ended in 1848, at which time a vast amount of territory was ceded to the United States. The territory obtained by the Treaty of Guadalupe Hidalgo reached from the Rio Grande, on the southern border of Texas, northwest and took in most of New Mexico, Arizona, Colorado, Wyoming, California, Nevada and Utah. However, there was a strip in the southern part of Arizona lying east and west below the Gila river, which was not included in the Guadalupe Treaty. It was purchased from Mexico for ten million dollars in 1853. More could have been bought, but it was thought at the time that the price of \$10,000,000 was too high. This strip extended almost to Yuma which was then in California, on the Colorado river, and comprised 45,500 square miles. The reason for buying this strip of land was to secure a right-of-way for a railroad through Southern Arizona which has no high mountains. This railroad was later built and is now known as the Southern Pacific. The negotiations for this strip were carried out for the United States by James Gadsden, then ambassador to Mexico (1853), and it has been called the Gadsden Purchase, or more often, The Strip. Most of the Indian fighting in Arizona went on in this area. It was inhabited by the fiercest of tribes, the Apaches and the Navajos. The Navajos at first were friendly, but later became belligerent and troublesome. This southern strip included the counties in which are located Tucson, Globe, Miami, Douglas and Bisbee. The latter two places at present, are of great importance as mining towns. Tombstone is also located in this strip. The southern part of this territory bordered on Mexico and an international line was run between the two countries.

In the purchase of this area, the United States was obligated to protect Northern Mexico from the

Indians. That is, they were supposed to keep the Indians north of the border. This was an impossible undertaking. The Mexicans for centuries had hated the Apaches who, in turn, actually despised the Mexicans. Moreover, the Apaches seemed to have no love for any nation or tribe. The inhabitants of the southern border of this strip, therefore, lived on the fiercest frontier of the United States. Indian warfare became almost continuous and was of such ferocity as to exceed in brutality anything we have ever known in this country. It is not understood why warfare with the Americans became the chief occupation of the Indians. It is probable, from information available, that the Indians were first inclined to be friendly and keep their treaties, but these were so frequently violated by the Mexicans and the Americans that the Indians decided to outdo them on this score and they later made treaties only to ignore them. The Mexicans apparently were responsible for a great deal of the animosity that existed.

It is probable that the Mexicans were the first to employ scalping on this continent, although it was described by Herodotus as having been used by the Scythians. It is known to have been practiced by the Anglo-Saxons and the Franks as early as 879 A.D., and it is still practiced in Africa. It has been so commonly associated with the American Indians, however, that many people assume that it had its origin with them. It is true that some of the Indian tribes practiced scalping a great deal and became expert at it. In some tribes other types of terminal brutality were preferred, such as crushing the head of the victim with a rock. This was particularly popular with the Apaches. At times large rewards were paid for Indian scalps, so that scalping became something of a commercial enterprise. It seems that the Indians had a trick of cutting several circular areas of scalp from one head, thereby making it appear that they had several scalps when, actually, they had taken them all from the same individual. Removal of the scalp was supposed, by some tribes, to have various effects on the spirit of the victim, such as banishment from the "Happy Hunting

*Read before the Richmond Academy of Medicine by Dr. Howard C. Naffziger, Professor of Surgery, University of California, for Dr. C. C. Coleman, April 10, 1951.

Grounds"; "the eternal slavery of the victim to the victor", or even, "the complete annihilation of the spirit".

The first American settlement in Arizona that still exists was at Tucson, located about sixty miles from the Mexican border. It was for many years known as "The Old Pueblo" and was a city walled as a protection against Indians. There used to be a saying among the settlers that goes something like this: "In going to the border south from Phoenix there are three places en route—*Tucson*, *Tubac*, *Tumacacori* and *Tu-Hell*!"

The United States government was sorely tried by the Indian uprisings. It was impossible for the soldiers to catch or control them. The most persistent of the army leaders was Captain (later General) Leonard Wood, who once kept chasing the Indians so doggedly that he is said to have wound up the campaign minus his uniform and wearing only his flannel underwear.

It is too much of an undertaking to go into detail concerning the years 1850 to 1900 when civilization was being brought with great difficulty to Southern Arizona. These years were fraught with terrible violence. Arizona was made a territory in 1863 over the opposition of some of the Northern States, which also opposed its statehood in 1912. Most of the territory had been settled by Texans who were rabid supporters of the Confederacy, and apparently the North felt there should be no more states or territories favorable to the Confederate cause and slavery.

During the War Between the States, when the North was "finding it hard going", it became necessary to recall the Union soldiers, then stationed in Southern Arizona to help with the fighting in the East. The Indians were jubilant over this, believing they had chased the army out. With this triumphant thought they began large scale depredation so that people were afraid to leave the protection of the walled city or mission. Sometimes the Indians came up to the very walls to drive off the cattle and sheep. The situation was little improved until after 1886, although, at one time or another, it seems that practically the whole United States Regular Army was employed in Arizona after the Civil War. Some of the names familiar in the struggle were Generals Howard, Crook and Miles. However, Leonard Wood won the Congressional

Medal of Honor for his outstanding military service. General Wood was graduated in Medicine from Harvard. He was serving an internship in Boston when he had some sort of argument with the administration and was expelled. He then went to Arizona where he enrolled in the army as Assistant Surgeon, but was also active in the line. He may have been a contract surgeon for a while, but there is no record of his patients except, later, Mrs. McKinley, wife of the President, in Washington. General Wood was a valiant and admirable leader. His administrations later in Cuba and the Philippines were outstanding.

It is probable that Arizona would not have been settled for many years had it not been for the discovery of valuable minerals—copper, silver, gold, lead, vanadium and many others. Arizona has led all the states in the Union since 1907 in the production of copper.

During the Indian depredations the Arizona country became somewhat unpopular. It was a stopping-off place for people on the way to California, over the Jubilee trail, but the trip became very dangerous. Grant sent Generals Sherman and Sheridan to Southern Arizona to see whether some control of the Indians, particularly the Apaches, could be worked out. It will be recalled that Sherman was quite a realist and an out-spoken man. It is said that in his later years he became an active socialite, attending dances and dressing for dinner every evening. General Sheridan was notoriously brusque and lacking in diplomacy. The two generals interviewed many people and some of them were very anxious to have the government with its soldiers take a hand, not only for protection, but to encourage development of the state. One of the prominent settlers of Tucson told General Sherman there was nothing really wrong with the country—that all it needed was water and society, to which Sherman is said to have replied, "That's all that's needed in hell. Since a war was started with Mexico to get this territory, I shall recommend another to make them take it back". One can readily imagine the General's disgust with the desert and camp life. General Sheridan was the author of the saying that "the only good Indian is a dead Indian", which was unfortunate in that it was not only untrue, but encouraged animosity between the races.

The following story has been attributed to Gen-

eral Sheridan. The suggestion was made to him that he organize a company of cowboys to fight the Apaches. He is said to have rejected the suggestion in the following words: "A cowboy will not fight unless he is drunk, and the U. S. Treasury doesn't have enough money to keep a company of cowboys drunk long enough to fight a campaign".

No discussion of this territory, in these times, would be complete without mention of the most outstanding man of the time in Arizona—Geronimo, Chief of the Chericahua Apaches. Geronimo was a medicine man of great ability, as many medicine men are. One of his co-chiefs had made a treaty with the United States to which Geronimo did not subscribe. He escaped from the conference, leaving word that he did not intend to abide by the treaty. He then began one of the most brutal and barbaric series of raids and crimes recorded in this country. He raided homesteads, cut the throats of the settlers and drove off the cattle. He did not fight battles; he was a murderer, and a very shrewd one. He would spend the summer pillaging and murdering, then in the Fall he would gather his women, old men and children together and present himself at the reservation, humble and penitent, promising to mend his ways. He and his tribe would be taken in, fed during the winter, then, when spring came, Geronimo and his warriors would be off again in orgies of murder and pillage. Finally, in 1886, General Miles was sent down to capture Geronimo and to put him in prison. A conference was arranged and when Geronimo put in his appearance he was promptly arrested and sent to Fort Pickens, in Florida. Geronimo was very indignant about this treatment when he had come to the conference in good faith. It is said he went so far as to call General Miles a liar, to which Miles replied that he had taken lessons in lying from the greatest liar of all times—Geronimo himself. The situation between the Apaches and the settlers had reached such a point that no half-way measure could be successful. Transportation of these people to some other country where they would be kept in prison was appropriate treatment for the renegades among the Apaches, but General Miles did not differentiate—he sent them all—friends and enemies. Some of the Apache scouts did valuable services for the United States Army and were good friends of the settlers, and the imprisonment of these friendly

Indians was cause of much criticism.

Geronimo was probably the greatest desert warrior of all times. He rarely, if ever, had large numbers of men. He did not fight battles, but depended on surprise and deception. With bow and arrow sentries could be slain noiselessly, permitting the Indians to be in the midst of a company of sleeping soldiers without a sound being heard and allowing the slaughter of many before they could protect themselves. The Indians then scattered like partridges and would meet at some prearranged hide-out completely unknown to the Army.

The doctors in the territory of Southern Arizona were a rather superior group of professional men, as a rule. In the first place, they had to be men of wonderful physical constitution to make the trip by wagon or on horseback over the Santa Fe trail from Independence, Missouri. They had to have an adventurous spirit as well as physical stamina. Furthermore, a number of them were graduates of such universities as Yale, Harvard and Columbia. Some went to the Southwest to find a suitable climate for members of their family who were ill. Doctors played an important part in the civic activities and were an influence in the community. Dr. B. B. Moeur was governor of Arizona in 1932 and served two terms. Two doctors won the Congressional Medal—General Wood, as previously mentioned, and Doctor J. B. D. Irwin, who was the first to establish a tent field hospital in battle. This was at Shiloh, in Tennessee, during the Civil War. Prior to that time, wounded soldiers had not been treated until they could be evacuated to hospitals in the rear. Another outstanding doctor was Walter Reed. The writer feels somewhat apologetic for not having known more about Walter Reed before going to Arizona. As an Army surgeon Dr. Reed did a considerable practice among civilians there and was highly regarded. He apparently did not have the belligerent tendencies of General Wood, but he began to show distinct evidence of greatness before he discovered the cause and manner of transmission of yellow fever.

One of the most outstanding medical men who practiced in Tombstone and Tucson in those violent days was Doctor George E. Goodfellow, who was born in California in 1855, and died in 1910. When he went to Tombstone, the opportunity to treat gunshot wounds was extremely good—at least the

material was abundant. It is said the town of Tombstone had its man for breakfast every morning. Pistol and gunshot wounds, injuries from the mines and riding horses, probably gave to Goodfellow the widest experience in traumatic surgery in America up to that time. He was a man of considerable ability, very forceful and aggressive. He was offered an appointment to West Point, but refused it on hearing there was no segregation of the races at the Academy. Later he accepted an appointment to the Naval Academy. A short time after matriculating there he was passing a colored cadet, by the name of Conyers, on the third floor landing. It is said the colored boy deliberately brushed against Goodfellow. At any rate, Conyers was found unconscious on the first floor landing some time later. Although there were no witnesses, Goodfellow did not attempt to deny participation in the episode and was expelled from the Academy. Admiral Schley presided over the Court of Inquiry which dismissed Goodfellow. Admiral Robley Evans, who was familiar with the case, said, "In our efforts to protect the colored boy we ran into the error of paying him too much attention and he gave himself undue importance and was really unbearable". Later on the same boy was involved in an altercation with another cadet and was forthwith dismissed. Goodfellow was said to have been the best boxer at the Academy. After leaving Annapolis he studied medicine with a relative and later on entered Wooster Medical School in Ohio. After graduation he went to Prescott where his father was a mining engineer. Although his father had never studied medicine he treated most of the miners for injuries and illnesses. Goodfellow did not stay long in Prescott, but went on to Tombstone, the name of which seemed to have a strange fascination for some people. This town is located about seventy miles from Tucson and thirty from the Mexican border. Tombstone probably at one time had more dangerous men than any city in the Southwest. Among these were Bat Masterson, Luke Short, Wyatt Earp and his brothers, Johnny Ringo, Curly Bill, King Fisher, Ben Thompson and many others.

Goodfellow took part in all civic activities, including an occasional lynching. He was appointed coroner and many of his recorded verdicts were colorful and in tune with the times. On one occasion five cowboys ran berserk on a December after-

noon in 1883, in a town named Bisbee, about thirty miles south of Tombstone. They were off on a shooting spree through the stores of the settlement. They killed three people. Several posses were formed to track the killers down. One was led by a John Heath who soon brought suspicion on himself by directing the posse in the opposite direction from that in which the murderers were known to have fled. It was finally discovered that Heath was one of the murder gang and that the raid had been instigated and plotted in Heath's own barroom at the edge of town. A trial was held and all were sentenced to hang except Heath who was not actually present at the shooting. He was given 18 years in prison at Yuma. The following day an aroused citizen's group lynched Heath. The Court's verdict had not satisfied the people of Bisbee and Tombstone, so they meted out their own punishment. Goodfellow, then coroner, made out one of his famous opinions, reporting somewhat as follows: "The deceased died from emphysema of the lungs, a condition often caused by sudden variation in altitude, and failure to keep feet on ground". This evasive report was undoubtedly due to the fact that Goodfellow, himself, had been seen mingling with the mob that had carried out the people's verdict and he could not, therefore, use the usual statement: "Death by parties unknown".

Another of Doctor Goodfellow's reports as coroner read like a mining engineer's opinion: "Assessment of the deceased showed the tissues loaded with lead but too badly punctured to hold whiskey". While many of the stories told about Dr. Goodfellow are legendary, the fact remains that he was a very colorful and outstanding person.

Goodfellow had quite a reputation as a surgeon, although surgeons in those days, in both East and West, were often referred to as "butchers". He probably had the greatest experience in gunshot wounds of the intestines of anyone in America, but he lamented the fact that he could never cure a case of gunshot perforation of the intestine. One can readily understand his handicaps in that day. However, Goodfellow was really a pioneer in prostatectomy. Hugh Young credits him with being the first surgeon to completely remove the prostate gland through a perineal incision. He reported 78 out of 80 prostatectomies with complete success and only two deaths, one from shock and the other from hemor-

rhage. This is a most creditable record for any era. It was said that he operated on many of his patients in the early days on a door laid across two whiskey barrels.

One of Goodfellow's most famous cases was that of Doctor Handy, a prominent doctor in Tucson, chancellor of the University of Arizona and chief surgeon of the Southern Pacific Railroad. Doctor Handy had come to Tucson in 1892. There was bad feeling between Handy and Francis Heany, a lawyer who was representing Handy's wife in divorce proceedings. Doctor Handy was said to have threatened to kill Heany. They met one day on the street in Tucson and Doctor Handy pulled his gun. In the ensuing scuffle Doctor Handy was shot with his own pistol. A wire was sent Doctor Goodfellow, who was then in Tombstone. There being no railroad connection, Doctor Goodfellow, with his daughter, drove a team of horses to Fairbanks, went by narrow gauge railroad to Benson and engineered his own train from Benson to Tucson. He operated on Doctor Handy, but the patient died at the close of the operation. There were 18 perforations of the intestines. Heany was acquitted at the trial and it was he who prosecuted Albert B. Fall in the Tea Pot Dome case several decades later.

Doctor Handy died on September 24th, and on October 3rd Dr. Goodfellow was appointed Chief Surgeon of the Southern Pacific Railroad to take his place. Some of his enemies said that Doctor Goodfellow had not been too anxious to save Handy as he hoped to get his job, but other facts would refute this.

During the Spanish-American War, Goodfellow went as civilian aide to General Shafter, who requested his services, Goodfellow was the only man on the staff who could speak Spanish fluently; therefore, he was selected by Shafter to conduct negotiations with the Spanish Commander. Goodfellow never had any military rank. In these negotiations, Goodfellow felt that better terms could be reached and settlement made with the Spaniards if plenty of whiskey were provided in the conference room. He later said that never had alcohol been used for a better or more therapeutic cause.

Doctor Goodfellow went from Tombstone to Tucson and from there to San Francisco. He had a good practice in San Francisco and during this time he went down to Bavispe, Mexico, to treat a large

number of people who had been injured in an earthquake and had no physician. The Mexicans were so grateful to Doctor Goodfellow for his services that they showered him with gifts and told him he could have all the slaves he wanted to take back with him to the States. He compromised, however, by accepting a thoroughbred Kentucky saddle horse, which had probably been stolen from one of the United States Army officers. They called him "The Sainted Doctor", much to his embarrassment.

Later on, in San Francisco, Doctor Goodfellow made some bad investments and it was thought by many that his business partners did not live up to their agreements. He left San Francisco very much disillusioned and went to Guaymas, Mexico, where he soon developed a generalized neuritis. Discussion of this disability is rather interesting in that Goodfellow was said, by his enemies, to have alcoholic neuritis. His friends denied this, but made no diagnosis. The author was told by one who was acquainted with Dr. Goodfellow that he had been known to drink a quart of gin before breakfast. Goodfellow, himself, felt his condition was due to beri-beri which he had contracted some years previously. At any rate, the disease was progressive and fatal. Goodfellow was one of the most prominent surgeons of his time. Certainly, in my research, I have found no one of his time who approached his experience and ability.

There were two other men, so-called doctors, who made names for themselves in Southern Arizona during this period. One was Doc. Holliday, a dentist from Valdosta, Georgia. Holliday had severe tuberculosis. He first went to Dallas, Texas, and began practice but he coughed so much he drove his patients away. He then took to gambling and in a card game killed a soldier. He hurriedly left Texas and went further west, but never practiced his dentistry again. On occasions he was known to render first-aid in shooting scrapes. His main vocation was gambling, at which he was an expert and he was known as one of the most deadly gunmen in the Southwest. He was absolutely without fear and, while he was not a killer, he seemed to be happy only during a gun battle. He was a great friend of some of the peace officers, particularly Wyatt Earp, and he actually courted death aiding them in the performance of their duties. However, he was not allowed to die with his boots on.

He is said to have drunk a quart of whiskey without stopping one day, and after remarking: "That's funny—I don't feel this whiskey at all", he dropped dead.

There was only one doctor in Tucson in 1860—Doctor Meyer, who was also Justice of the Peace. His knowledge of medicine was evidently very elementary. He had two books: *Materia Medica*, and, as he described it, "a book on bones". It is said he based his knowledge of law on these two medical books. When he had a difficult case to decide in court he seemed to find a solution of the problems in one of these two books. Doctor Meyer often tried to overcome his loneliness with the alcoholic treatment, it is said.

Southern Arizona remains divided today by a great feud that existed in Tombstone in 1880-81. With many older people, who have first hand information of this feud, there reveals a difference of opinion relative to the merits of the contention that existed between the Federal law enforcement officers and the local peace officers. Wyatt Earp, United States Deputy Marshal, with his brothers as Town Marshals, was said to have been against the Clantons and the McLowerys, well-known cattle rustlers in the area. The feud came to a head in Tombstone in 1881. One of the Clantons and both of the McLowery boys were killed. Wyatt Earp was not touched, but his brother, Morgan, was badly wounded. This encounter was known as the "fight at the OK Corral" and is celebrated in Tombstone under the name of "Helldorado".

One very alert elderly lady, now living in Tombstone, and who had lived there at the time of this famous duel, lends her support to the Earp contingent. She states that Earp was appointed by the United States Government. He was a Republican and therefore not liked in Tombstone, which was predominantly Democratic. Arizona has remained Democratic since that time with only an occasional Republican governor. The main reason for this was that they had a lot of silver in Arizona and the people wanted free silver.

Arizona was admitted as a state in 1912, and thus became the 48th and youngest state in the Union. There was considerable opposition to this admission from some of the Northern states as it was felt that Arizona would go along with the Southern states as it usually has. Arizona insisted

on putting in her constitution the referendum and recall features and election of judges by popular vote. President Taft particularly objected to this and said if these were omitted he would approve admission of the state. Arizona legislature agreed to this but did not do it. Judges are now elected by the people. I have been informed that the referendum and recall feature has been invoked only on one occasion.

One characteristic of the people of Arizona that is most outstanding is their readiness to celebrate at the drop of a hat. They will whip up a big celebration at the slightest provocation, sometimes most hilariously. One such tremendous celebration was staged in 1880 in Tucson when the Southern Pacific Railroad was completed into that town. A prominent citizen arranged a big party at which congratulatory telegrams were to be read. The party was going well. After each telegram was read the whole crowd would adjourn to the bar to take a round of drinks. There were telegrams from the President, Governors of states, United States Senators, Congressmen, etc. Finally one came from Queen Victoria, signed by her secretary, Lord Beaconsfield. This called for champagne, after which there was a lull in telegrams. The delegation from Tombstone had been right much hurt over Tucson's getting the railroad and having the party, although they were rather well consoled with whiskey. They brought a telegram from Rome signed "Antonelli, Secretary of the Pope", which read as follows: "His Holiness, the Pope, acknowledges with appreciation receipt of your telegram informing him that the ancient city of Tucson at last has been connected by rail with the outside world, and sends his benediction, but for his own satisfaction, would like to ask: *Where In Hell is Tucson, anyway?*" This was a blow to the pride of the Tucson citizens. They had sent a notice to the Pope and they actually believed that this fictitious telegram was his reply.

Many interesting things may be written about Arizona—this youngest state in the Union. It is populated by people from many areas, but there is a universal hospitality and friendliness that is felt throughout the state. The medical profession there has made great strides when we think that not so long ago the doctor in that area had to be as adept with a six-shooter as he was with the scalpel. Today they have many well-equipped hospitals and many

prominent doctors, whose voices are heard in the councils of the national medical profession.

At some future time it may be possible to extend some of these observations and to include others of equal interest.

REFERENCES

Arizona Guide.
Tombstone, by Walter Noble Burns.
The Last Chance, by Myers.
Tombstone's Epitaph, by Martin.
Helldorado, by Breakenridge.

Urge More Enlightened Attitude Toward Leprosy.

Increasing interest in leprosy and the encouraging number of therapeutic agents available open an entirely new vista to the leper, it was stated in the October 11 J.A.M.A. With this improvement in treatment must come a more enlightened attitude toward this disease, according to Drs. George W. Zeluff, Houston, and G. J. Hayes, Alvin, Texas, who added:

"The word leprosy has cast a shadow of terror before it since times of antiquity. Despite the fact that it is far less contagious than tuberculosis and infinitely less prevalent, leprosy is considered a much greater hazard by the general public and, perhaps, by the medical profession."

Leprosy, the doctors said, is a chronic, indolent, infectious disease. Only 0.1 per cent of the total persons afflicted with it are found in the United States, and the majority of these are found in California, Texas, Florida and Louisiana. There are 5,000,000 other lepers in the poverty-stricken, less enlightened areas of the world. The incubation period of leprosy varies from one to 10 years, and the disease is most frequently found in persons in their thirties.

Recent new advances in chemotherapy have made a marked improvement in the prognosis of leprosy, the doctors pointed out. Although all forms of treatment still require months or years, the greater efficacy of such drugs as the sulfones has radically changed the course and future of treatment in early leprosy.

Some gradual breaches in the wall of ignorance,

stigma and therapeutic nihilism that has surrounded the victims of this disease, according to the doctors, are the medical discharge of a patient from the National Leprosarium in Carville, La., while still in the communicable stage of the disease, the removal of the barbed wire from the fence around the hospital, and the discharge of a patient from the leprosarium after six negative bacteriological examinations, instead of the usual 12.

New Books.

We list below some of the newer additions to the Tompkins-McCaw Library of the Medical College of Virginia, Richmond. These may be borrowed by our readers under usual library rules.

Annual review of microbiology. V. 6, 1952.
Army Medical Service Graduate School—Symposium on treatment of trauma in the armed forces. 1952.
Barber—The trembling years. 1949.
Barker—The unipolar electrocardiogram. 1952.
Barrett—Ward management and teaching. 1949.
Barta—The moral theory of behavior. 1952.
Cornell Conferences on therapy. V. 5, 1952.
Dublin—A 40 year campaign against tuberculosis. 1952.
Glasstone—Sourcebook on atomic energy. 1950.
Harris—Vitamins. 1951.
Josiah Macy, Jr. Foundation—Connective tissues. 1952.
—Nerve impulse. 1952.
—Shock and circulatory homeostasis. 1952.
Krupp—Physician's handbook, 7th ed. 1952.
Lansing—Cowdry's problems of the aging. 3rd ed. 1952.
Lewin & Gilmore—Sex after forty. 1952.
Merck & Company, Inc.—Cortone; a handbook of therapy. 1952.
Olmsted & Olmsted—Claude Bernard and the experimental method in medicine. 1952.
Stewart—Cardiac therapy. 1952.

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.

Commissioner, Department of Mental Hygiene and Hospitals

Helping Patients to Help Themselves*

The traditional role of the doctor has included, in addition to the medical care of his patients, the task of acting as their friend, confidant and advisor in many problems of life. The old-fashioned family doctor of whom we hear and read so much played this part as a natural function of his profession, realizing in a practical, even if not in a scientific way, that the emotional reactions of the patients toward their everyday difficulties often acted as obstacles to treatment or, conversely, as powerful aids to therapy. As medical practice has become more complex, as the demands upon the physician's time have increased unbearably, and as specialization has made personal contact more difficult, these phases of the doctor's endeavor have come to occupy a minor place in his efforts. Fortunately, however, we can see that the pendulum is swinging back. The knowledge brought forth by psychosomatic medicine has made it plain to every practitioner that he can no longer neglect the emotional life of his patients if he is to obtain the best therapeutic results. He must not only minister to their physical ills, he must also aid them to recovery by helping where he can in the solution of those problems of living which create emotional turmoil and thereby cause or prolong illness or retard recovery.

Too often, the help which the patient requires is of a sort that the doctor feels himself ill equipped to give. Or, he may be just unable to afford out of a busy practice the hours that are usually needed to discuss family and other emotional difficulties, and thus to lead the patient to develop a solution which will enable him to live in peace with himself and to achieve mental and physical health. The task is one in which aid is required, one which the physician can best discharge by turning it over to those who have skill in helping people and whose task it is to give that help. The social agencies found in most of our communities perform exactly these functions. It is logical for doctors to use them whenever their patients require such services.

There have, unfortunately, been many misconceptions regarding social work, social workers and the agencies with which they are connected. Perhaps

a few words of description will help to dispel such erroneous ideas. In recent years social work has become a recognized profession. Formerly almost wholly a woman's field, it is today being increasingly shared by men. The well-equipped social worker has followed graduation from college by a course of professional training, lasting two years, in a recognized school of social work (there is one in Virginia at Richmond Professional Institute). The course of study includes a period of carefully supervised field work analogous to the clinical clerkship of the medical curriculum. Then, in their earlier years of employment, social workers are supervised much as are internes in hospitals.

Secondly, the task of social case work is definitely not that of snooping into people's private affairs, as is often alleged. Probably the best formulations of the profession describe casework as "the art of helping people to help themselves" or "the art of helping people out of trouble". The aim of the social worker is to make himself unnecessary as rapidly as possible. He (or she) tries to build up in the client a self-sufficiency such that he can adequately meet the problems of his daily life. This end is not accomplished by telling people what to do, but rather by helping them to understand themselves and thereby leading them to work through their feelings and to arrive at ways of meeting their own needs. Any other procedure would only increase dependence and thus merely relieve present stresses without affording permanent help.

The number and variety of case-work agencies and their names naturally differs from one community to another. Our larger cities have many, our smaller communities fewer. Rural areas are served either by agencies in neighboring towns and cities or, for certain limited services, by the welfare departments of the counties. It is thus necessary to speak in more or less general terms. In our larger communities there is a Council of Social Agencies, Social Planning Council, Community Fund or Community Chest whose office will be able to advise a doctor as to the name and location of the local organization that offers the particular service needed for a patient.

Let us consider, first of all, the problems of family life. These include such things as the disruptions that come with illness of the breadwinner or the homemaker, difficulties in adjustment between husband and wife or between parents and children, financial troubles, inability adequately to budget in-

*Article by Gilbert J. Rich, Ph.D., M.D., Director, Roanoke Guidance Center, Roanoke, Virginia.

come, the many worries of domestic life, and a host of others. A city that has developed any privately supported agencies at all will probably have a family case-work agency. It may be known as Family Service, Family Welfare, or some similar name. In addition one or two of our largest cities have special agencies to serve sectarian groups. The work of a family agency is not primarily the giving of financial relief, but rather that of counselling, with families in difficulty in such a way as to help them out of their troubles. The giving of actual financial aid is the task of the Welfare Departments of our cities and counties. Family agencies give other types of aid. The doctor who refers to such an agency a family that is in difficulty will be pleasantly surprised to find out how helpful it can be.

Another typical problem often encountered is the need by the unmarried mother for helping in planning for her confinement and for the placing of her baby for adoption. On the other hand, childless couples are asking for aid in finding babies to adopt. While the family agencies help the unmarried mother with her problems of confinement, including the decision as to whether to keep and raise the infant or to release it for adoption, the work of adoption belongs to the more specialized children's agencies. There is the Children's Home Society, which has a number of branches throughout the state, as well as several sectarian agencies. In addition, the Welfare Departments of the cities and counties serve as adoption agencies. The unmarried mother who wishes to place her baby for adoption and the couple looking for a child to adopt should be referred to one of these agencies for help. The Social Worker makes a careful investigation both of the background and the health and, frequently, mental development of the child, as well as of the suitability of the home to adopt a child in general, and this child in particular. Not by any means are all couples desiring to adopt a child suitable parents. No doctor would consider the investigation improper if he, like the psychiatrist in a child guidance clinic, has seen the numerous preventable tragedies that have resulted from ill-conceived adoptions that were arranged without adequate study. The future life not only of a child but also of a whole family is too serious a matter to be decided lightly and without expert advice and consideration. A child's life that is ruined by an unsuitable adoption is as serious an error as one that is ruined by failure to prevent physical defects.

The physician often desires help with patients who exhibit mental and emotional problems, more especially children whose conflicts show as difficult behavior, school problems, enuresis, feeding difficulties, psychosomatic complaints and the like. There are now some fourteen mental hygiene clinics in various parts of the state, operated under the auspices of the Department of Mental Hygiene and Hospitals. They are called Guidance Clinics, Guidance Centers, Children's Centers, etc. Some limit their service to children, while others serve both children and adults. Their function is essentially the prevention of mental illness through the treatment of emotional maladjustment before it develops into serious illness. The emotional problem which the doctor feels is not within his province to deal with can be referred to one of these clinics for aid and assistance. It is unfortunate, of course, that there are not enough clinics to serve the entire state.

There are other organizations which aid in the emotional development of children. On the one hand are the agencies which deal with groups of children, the so-called group-work or character-building agencies, including YMCA, YWCA, Boy Scouts, etc. On the other hand stands the Juvenile Court. It is authoritative in its nature and should be thought of only when the situation is desperate or when there is no other resource.

It is obviously impossible to mention here every social work resource, especially since they differ from community to community. However, a realization that such agencies do exist should stimulate the doctor to ask about what is available to him and to make use of it whenever desirable.

Although they are often supported by donations, the social agencies should not be thought of as charities whose services are only for the poor. Families of moderate and even affluent financial standing have the same personal and emotional problems as those in more difficult circumstances. Their money is not a barrier to receiving the services which they need. Some social agencies have their clients pay for service according to their ability—and the others will gladly accept donations. The day has long passed when social work was considered charity. Today it is service, service to the community and to the families and individuals who make up the community. The services are there. It is the doctor's place to make use of them for the benefit of his patients.

PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Geographic Distribution of Poliomyelitis in Virginia

In 1950 there were 1,200 cases of poliomyelitis reported in Virginia—the largest number for any year on record. The southwest part of the state that year was particularly hard hit, with Wythe County reporting 184 cases (an attack rate of 788.8 per 100,000 population).

In frequent contact with physicians in this area, the opinion was often expressed that Southwest Virginia must be an area endemic for poliomyelitis as this region seemed to have more reported cases than other sections of the state.

In an attempt to demonstrate any basis for this opinion, we have divided the state into eight sections, primarily on a geographic basis but recognizing that the counties in each group have some cultural, occupational, residential and climatic features in common.

The grouping is as follows:

GROUP 1—SOUTHWEST—Lee, Scott, Wise, Dickenson, Russell, Washington, Buchanan, Taze-

Louisa, Fluvanna, Goochland, Buckingham, Cumberland, Powhatan, Charlottesville.

GROUP 5—SOUTH CENTRAL — Henry, Franklin, Bedford, Amherst, Nelson, Appomattox, Campbell, Pittsylvania, Halifax, Charlotte, Prince Edward, Amelia, Nottoway, Lunenburg, Mecklenburg, Brunswick, Greenville, Danville, Lynchburg.

GROUP 6—NORTHERN NECK AND EASTERN SHORE—Stafford, King George, Spotsylvania, Caroline, Westmoreland, King William, King and Queen, Essex, Richmond, Middlesex, Lancaster, Northumberland, Mathews, Gloucester, Accomac, Northampton.

GROUP 7—RICHMOND AREA—Dinwiddie, Prince George, Chesterfield, Charles City, Henrico, New Kent, Hanover, Richmond City, Petersburg.

GROUP 8—NORFOLK AREA—James City, York, Surry, Sussex, Southampton, Isle of Wight, Nansemond, Norfolk, Princess Anne, Hampton City, Warwick City, Portsmouth, Newport News, Norfolk City.

High Incidence Years	1944		1948		1950	
	Population	Rate	Population	Rate	Population	Rate
STATE OF VIRGINIA	2,800,000	27.0	3,145,497	18.0	3,318,680	36.2
GROUP 1	565,314	43.0	633,358	12.3	660,627	68.3
GROUP 2	248,881	35.8	273,440	15.7	288,991	28.0
GROUP 3	251,222	25.1	326,570	28.2	368,337	38.3
GROUP 4	132,978	20.3	144,393	33.9	151,735	20.4
GROUP 5	446,320	25.8	483,875	18.0	501,913	31.9
GROUP 6	166,643	31.8	174,077	14.9	185,906	17.8
GROUP 7	379,275	17.9	414,697	18.3	448,574	31.0
GROUP 8	609,362	17.9	684,796	18.3	712,239	31.0

well, Smyth, Bland, Wythe, Grayson, Giles, Pulaski, Carroll, Montgomery, Floyd, Patrick, Roanoke, Roanoke City.

GROUP 2—WESTERN AND VALLEY—Craig, Botetourt, Alleghany, Rockbridge, Bath, Highland, Augusta, Rockingham, Page, Shenandoah, Warren, Frederick, Clarke.

GROUP 3—METROPOLITAN — Loudoun, Fauquier, Prince William, Fairfax, Arlington, Alexandria.

GROUP 4—PIEDMONT — Rappahannock, Madison, Culpeper, Greene, Orange, Albemarle,

In the following table are listed, for certain years of high incidence, the poliomyelitis attack rates for the whole state and the attack rates for the several groups of counties for the same years.

Inspection of this table shows that for two of the years listed (1944 and 1950) the attack rate of Group 1 (the Southwest) was higher than that of any of the other groups and higher than that of the state as a whole.

In 1948, however, the attack rate of Group 1 was lower than that of any other group.

The evidence, therefore, that the Southwest gets

more than its share of poliomyelitis is suggestive, but a larger series would be required before claiming any significant difference in geographical distribution of poliomyelitis during years of high incidence.

MONTHLY REPORT OF THE BUREAU OF COMMUNICABLE
DISEASE CONTROL

	Oct. 1952	Oct. 1951	Jan.- Oct. 1952	Jan.- Oct. 1951
Brucellosis	1	5	34	71
Diarrhea and Dysentery	213	393	2,167	2,695
Diphtheria	40	38	113	126
Hepatitis	65	5	617	23
Measles	44	94	15,379	13,840
Meningitis (Meningococcic)	13	7	163	102
Poliomyelitis	109	44	630	235
Rabies in Animals	29	9	400	179
Rocky Mt. Spotted Fever	1	1	73	59
Scarlet Fever	36	49	595	790
Tularemia	0	2	41	35
Typhoid and Paratyphoid	9	11	79	52

WOMAN'S AUXILIARY
TO
THE MEDICAL SOCIETY OF VIRGINIA

- President—
Mrs. THOMAS N. HUNNICUTT, JR., Newport News
President-Elect—Mrs. K. W. HOWARD, Portsmouth
Treasurer—Mrs. WM. C. BARR, Richmond
Recording Secretary—Mrs. LEE S. LIGGAN, Irvington
Corresponding Secretary—
Mrs. F. A. CARMINES, Newport News
Publication Chairman—
Mrs. ROBERT H. DETWILER, Arlington

The Southwestern Virginia Auxiliary

Met at the Governor Tyler Hotel in Radford, September twenty-fifth.

Mrs. James King of Radford was elected president of the organization, succeeding Mrs. W. C. Caudill of Pearisburg.

Other officers elected were Mrs. C. C. Hatfield, North Holston, president-elect, Mrs. M. C. Newton, Narrows, vice president, Mrs. Joseph Coates, Galax, secretary and Mrs. W. H. Malan, Dublin, treasurer.

Mrs. C. F. Manges, Blacksburg, installed the officers.

State chairmen present were Mrs. W. A. Porter, Hillsville, chairman of To-day's Health and Mrs. R. H. Harrington, Marion, chairman of Exhibits.

The speaker for the afternoon program was Mr.

Robert I. Howard, executive secretary and treasurer of The Medical Society of Virginia. His subject was "The Value of a Woman's Auxiliary to a Medical Society."

ANNIE E. COX (Mrs. J. GLENN)
Secretary

Arlington Auxiliary.

The first meeting of the 1952-53 season was held at the Washington Golf and Country Club in Arlington, Va., on September 9, 1952, at which time the new officers presided. They are as follows: President, Mrs. J. Raymond Hutchinson; President Elect, Mrs. Lee Martin; Vice-President, Mrs. Robert L. Norment; Recording Secretary, Mrs. Michael Puzak; Treasurer, Mrs. Frazier Williams; Parliamentarian, Mrs. John Hazel; Historian, Mrs. Jerome Cope; Social Chairman, Mrs. Albert Orlosky; Program Chairman, Mrs. K. Charles Latven; Today's Health, Mrs. J. Rollins McGriff; Publicity, Mrs. Sigmund Newman; Membership, Mrs. John H. Gilligan; Telephone, Mrs. Stephen Sheehy; Public Relations, Mrs. Mervin W. Glover; T. B. Handicraft sale, Mrs. Robert Detwiler; Bowling, Mrs. J. C. Waters.

It was nice getting together again after the summer and seeing our friends looking so fresh and ready to work for the coming season.

Our October meeting will be held in the form of a Membership tea on October 14, at the home of Mrs. K. Charles Latven. We will miss our President, who is on an extended trip to California with her husband, Dr. J. Raymond Hutchinson.

The Auxiliary is co-sponsoring with the Arlington Tuberculosis and Health Association, a third annual sale of articles made by tuberculosis patients in the various sanatoria in Virginia and those homebound in Arlington, to be held December 4, 5, and 6 at the Arlington Trust Company. Last year, over \$600 worth of articles were sold. Well-made materials including needlework, leatherwork, woodwork, costume jewelry and ceramics will be featured.

Alexandria Auxiliary.

The Auxiliary met Tuesday evening, September 16, at the home of Mrs. Richard E. Palmer.

On the agenda for the coming year is the continuation of the collection and distribution of shoes to needy children through a local shoe center. Providing Alexandria Hospital School of Nursing Sholarships is one of the chief projects of the Aux-

iliary. A buffet supper is planned and served at each Medical Society meeting by an Auxiliary committee. Sponsoring a Girl Scout Hospital Aid Troop is still another project.

The first social event of the season, a masquerade at Gadsby's Tavern on October 25, will be a membership party to welcome doctors and their wives who are new in the community.

Mrs. Forrest Swisher is president. Mrs. John D. Hoyle is vice-president and Mrs. Richard E. Palmer is treasurer. Mrs. John Zearfoss is recording secretary and Mrs. James Gilbert is corresponding secretary. President-elect is Mrs. Eugene Grether. Mrs. Anderson-Engl is parliamentarian. Chairmen of standing committees include: Mrs. George Speck, Doctor's suppers; Mrs. F. Preston Titus, membership; Mrs. Christopher Murphy, program; Mrs. J. J. Moriarty, Girl Scouts; Mrs. Milton Stein, shoe center; Mrs. Robert H. Anderson, public relations.

Northampton-Accomac Auxiliary.

On Tuesday, October 14th, the Auxiliary held its regular fall meeting at the home of Mrs. W. A. Eskridge, at Parksley.

The meeting was opened with the reading of The Lord's Prayer by the retiring president, Mrs. John Wise Kellam.

Letters to the Auxiliary and changes in the By-Laws were read by Mrs. Kellam.

Members were urged to get out and vote in November.

Nurse recruitment folders were given members to be placed in the High Schools of both counties.

Minutes of the April meeting were read by the secretary, Mrs. W. Carey Henderson and the treasurer's report was given.

A new member was welcomed into the Auxiliary, Mrs. T. B. Hardman of Cape Charles.

Funds were voted for The Leigh-Hodges-Wright Memorial, and for The March of Dimes.

The Chairman of the Nominating Committee, Mrs. W. Carey Henderson, announced nominations. They were unanimously elected to serve for 1953 and 1954.

Vice-President and President elect for 1953-54, Mrs. E. E. Milhalyka; Secretary for 1953, Mrs. H. L. Denoon, Jr.; Treasurer, Mrs. John Rogers Mapp.

The meeting was then turned over to the incoming president, Mrs. John R. Hamilton, who was presented with the Silver Vase for her term of office.

A delicious dessert course was served by the hostess, Mrs. W. A. Eskridge, following the business meeting, and a social hour was enjoyed by all members.

The January meeting will be announced later.

CATHERINE R. TROWER

(MRS. HOLLAND)

Chairman Press and Publicity.

BOOK ANNOUNCEMENTS

Rypins' Medical Licensure Examinations. Topical Summaries and Questions. By WALTER L. BIERING, M.D., F.A.C.P., M.R.C.P., EDIN. (HON.), Former Member, National Board of Medical Examiners, American Board of Internal Medicine, Iowa State Board of Medical Examiners; Professor Emeritus, Theory and Practice of Medicine, College of Medicine, State University of Iowa; etc. With the Collaboration of a Review Panel. Seventh Edition Philadelphia, J. B. Lippincott Company. 1952. xvi-856 pages. Cloth. Price \$8.00.

Living With Cancer. By EDNA KAEHELE. Doubleday & Company, Garden City, N. Y. 1952. 160 pages. Cloth. Price \$2.00.

Research in Endocrinology. By AUGUST A. WERNER, M.D., and Associates. Edited by Al R. Schmidt, City Editor, Belleville Daily Advocate, Belleville, Ill. 1952. 285 pages. Cloth.

Sex After Forty. By S. A. LEWIN, M.D., AND JOHN GILMORE, PH.D. Introduction by Dr. Russell L. Dicks, Professor of Pastoral Care, Duke University. Medical Research Press, New York, N. Y. 1952. 200 pages, illustrated. Cloth. Price \$3.50.

Physical Diagnosis. By HARRY WALKER, M.D., F.A.C.P., Professor of Clinical Medicine, Medical College of Virginia, Richmond, Va. St. Louis, The C. V. Mosby Company. 1952. 461 pages with 126 illustrations. Cloth. Price \$8.00.

Cardiac Therapy. By HAROLD J. STEWART, M.D., Associate Professor of Medicine, Cornell University Medical College, New York; Attending Physician, New York Hospital; etc. Paul B. Hoeber, Inc., New York. 1952. x-622 pages. Illustrated. Cloth. Price \$10.00.

THE ANNUAL MEETING IN RICHMOND—

Dr. and Mrs. Alexander F. Robertson and Dr. and Mrs. Vincent W. Archer (Past President and President-Elect).



Mrs. Ralph Eusden, President Woman's Auxiliary to A.M.A.; Mrs. Herman Farber, retiring President M.S.V.; Mrs. T. T. Hundley, Eugene Holcombe, President Woman's Auxiliary to the Southern Medical Association.



Dr. Frank A. Farmer, Dr. H. C. Bates, and Dr. W. C. Welburn. (Councilors and Vice-President)



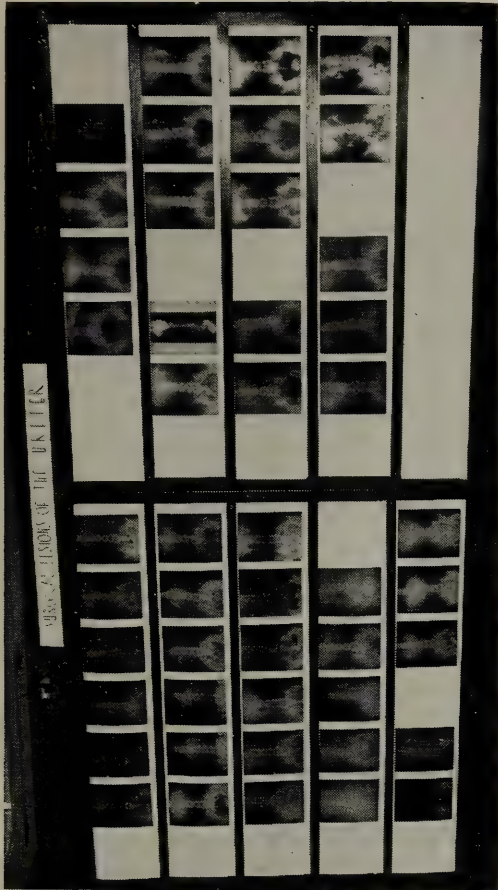
Dr. James L. Hamner, President, The Medical Society of Virginia, and Mrs. Hamner.



Mrs. Maynard R. Emlaw, Co-Chairman for Ladies, and Dr. Kinloch Nelson, General Chairman.



AND A GOOD TIME WAS HAD BY ALL!



First Prize for Scientific Exhibits by Drs. A. I. Dodson and W. J. Frohbose, Richmond.



Dr. Ira L. Hancock, Dr. R. M. Reynolds, Dr. Russell Smiley, Dr. E. M. Mann and their wives.



Dr. Oscar Ward, Jr., and his Harem.



Medical Quackery—Sponsored by the Public Relations Department of the Society.

PROCEEDINGS

THE MEDICAL SOCIETY OF VIRGINIA

1952 ANNUAL MEETING

Richmond

September 28, 29, 30 and October 1, 1952

COUNCIL

September 28, 1952

The Council of The Medical Society of Virginia was called to order by the President, Dr. John T. T. Hundley, at 3:00 p.m., Sunday, September 28, 1952 at the Jefferson Hotel. Those present were Dr. James L. Hamner, Dr. C. L. Harrell, Dr. Mack I. Shanholtz, Dr. Ira L. Hancock, Dr. A. A. Creecy, Dr. Walter P. Adams, Dr. Guy W. Horsley, Dr. Wilkins J. Ozlin, Dr. Louis P. Bailey, Dr. Frank A. Farmer, Dr. Harold W. Miller, Dr. Vincent W. Archer, Dr. James P. King, Dr. Harry C. Bates, Jr., and Dr. Lewis H. Bosher, Jr.

The motion was made to accept the minutes of the previous meeting as published in the *Monthly*. This passed unanimously.

First on the agenda was the presentation of a group insurance plan for Society approval by the Continental Casualty Insurance Company, which was given by Mr. William Coyle, Eastern Regional Manager. He explained the advantages of the plan and its several variations. Dr. Hundley explained that the Medical Service Committee had looked into the plan but was not willing to make a final recommendation. It was brought out that there was little difference in the rate the county society could obtain and that offered the state society. Dr. Farmer made the motion that the Council approve the action of referring it to the component societies for consideration on the local level. This passed unanimously.

Dr. J. H. Scherer was next introduced for the purpose of offering an objection to the plan of the Office of Defense Mobilization for a national blood program, dated February 18, 1952. The American Association of Blood Banks opposes this program and has offered a national security program approved by the Association in its stead. Dr. Scherer then read the resolution adopted by the Association against the program. He explained that the whole blood program of the country, in war and peace, is in the hands of two federal agencies and the Red Cross, with the medical profession having no say. They are therefore requesting that the A.M.A., representing the medical profession, request proper representation in the control of any emergency blood program and that the need for a national blood program be further explored. Dr. Scherer suggested that The Medical Society of Virginia prepare a resolution and send it to our Congressmen, the A.M.A., and the President. Dr. Horsley felt that we should inform the A.M.A. that we are cognizant and concerned that the medical profession is not adequately rep-

resented. The motion was made that the resolution of the American Association of Blood Banks be approved in principle by the Council and presented to the House of Delegates for action. This passed unanimously.

Dr. Hundley then discussed the background of the American Medical Education Foundation, and introduced Dr. Marcellus A. Johnson, Jr., Chairman of the Virginia American Medical Education Foundation Committee, who gave a history of the Foundation and reported that the drive is now beginning to bear fruit, with \$2,000 having been contributed thus far during 1952. Dr. Walter Martin pointed out that it was the responsibility of each physician to see that the drive to subsidize medical schools with federal funds be halted. Physicians should contribute to the Foundation and bear their own responsibility. Dr. Archer moved that Dr. Johnson prepare a resolution and present it to the House of Delegates for approval. It was further suggested that he give the House of Delegates a brief talk, explaining how this drive can be promoted on the local level. This passed unanimously.

Dr. Harry J. Warthen, Jr., Chairman of the Finance Committee, then presented the budget as proposed by the Committee.

Budget

1952-3 Budget

EXECUTIVE OFFICE

Salaries	\$24,500.00
Telephone	1,500.00
Postage	1,000.00
Stationery and Supplies	900.00
Office Equipment	750.00
Building Maintenance	2,500.00
Convention expense	500.00
Council expense	425.00
Executive Assistant to A.M.A.	200.00
Delegates to A.M.A.	2,000.00
President's expense	1,000.00
Virginia Medical Monthly	18,000.00
Scientific Exhibits	2,000.00
Walter Reed Commission	250.00
Cancer Control	400.00
National Medical Emergency Service	150.00
Affiliated Agencies	60.00
Contingent Fund	500.00
Post-Graduate Medical Education	1,000.00
Building Repairs	500.00
Travel	2,000.00
Woman's Auxiliary	100.00

Social Security -----	375.00
Medical Service Brochure -----	400.00
Miscellaneous Health Service Committees ---	300.00
Miscellaneous -----	500.00
SPECIAL APPROPRIATIONS	
Virginia Council on Health and Medical Care	2,000.00
National Society of Medical Research -----	150.00
PUBLIC RELATIONS	
Conference -----	750.00
Radio and Press -----	400.00
Literature and Bulletins -----	1,000.00
	<hr/>
	\$66,110.00

Concerning the President's expense, it was felt that \$600 was too limiting, and although Dr. Hamner did not wish it to be increased during his term, it was thought advisable to increase it to \$1,000. The printing of an official directory was left to the Council by the Committee, and it was decided to discontinue the publication at least temporarily. There was some question as to whether or not duplication existed with reference to the directory of the State Board of Medical Examiners. It was pointed out that a \$2,000 increase for the *Virginia Medical Monthly* was requested in order to take care of a backlog of papers. Dr. Ozlin moved that the budget as presented be adopted. This passed unanimously.

A problem concerning hospital construction which has recently been brought to the attention of the Virginia Hospital Advisory Council was discussed by Dr. Warthen. It seems that a number of hospitals have been approved for federal funds under the Hill-Burton Act, and now find that only 33 per cent of the cost will be borne by the federal government instead of the 55 per cent which had been the assumption when campaigns to raise funds in local communities were conducted. It was felt that the state should make up the difference, and the Hospital Advisory Council wished to request the Governor to recommend that the present inadequate Federal aid be augmented by funds from the Commonwealth of Virginia at the next meeting of the Legislature to be held in December 1952, in order that the needed hospitals may be erected as originally planned at the earliest possible moment. Dr. Shanholtz explained that the State had put up 21 per cent in past years, but under the present budget, only 1 per cent could be allowed next year. Dr. Horsley suggested that a resolution be offered to the effect that the State Society request that the Governor return to the 21 per cent supplement and consider it at the coming legislative session. It was moved and seconded that Dr. Warthen prepare this resolution and present it to the House of Delegates for action. This passed unanimously.

Considered next was the matter of a replacement for Mr. Nash. Mr. Howard stated there have been several applicants for the job, and he would welcome any suggestions Council wished to offer. It was then moved and passed that the Executive Committee be empowered to work with Mr. Howard in the selection of a replacement for Mr. Nash.

The advisability of revising the Fee Schedule used in the Veterans Medical Home Care Program was discussed, and it was pointed out that there has been some dissension over it. A motion was made by Dr. Adams that the question be referred to the Medical Service Committee for necessary revision and preparation of another contract, and that it be referred back to the Council at its next meeting. This passed unanimously.

Concerning the unbound copies of Dr. Blanton's Medicine in Virginia which are stored in the basement and have been damaged by exposure, insects and movement, it was the consensus of Council that Dr. Blanton be consulted, and if there were no objections, steps be taken to dispose of the copies.

The question was raised regarding the policy of the *Virginia Medical Monthly* in accepting papers from non-members of the Society. After considerable discussion, it was moved that the columns of the *Monthly* be reserved for members and invited guests except where items of unusual value or exceptional circumstances are concerned, and which would be determined by the Publication Committee. This passed unanimously.

Dr. Hundley then discussed the Conference in Charleston on the United Mine Workers' Health and Welfare Fund. He stated that Virginia had not cooperated actively in the past, but the Fund has requested that a committee be appointed to work with that group. At the Conference the Virginia delegation prepared a good set of recommendations. These recommendations will be considered, and all of the UMW area advisers have been called into Washington to go over them, and will report back to the medical groups as to what can be done. Dr. Hundley felt that the liaison committee should be set up, to assist the United Mine Workers and their area representative in improving the standard of care in the mining areas, and to assist in molding the program into one that would avoid the dangers of a bureaucratic system of medicine. The motion was made that the appointment of a liaison committee to work with the United Mine Workers be approved. This passed unanimously.

On the subject of whether the State Society should endorse the World Medical Association, it was mentioned that Dr. Louis Bauer, President, A.M.A., last year explained the Association before our House of Delegates and recommended its support. A suggested resolution was read by Dr. Hundley whereby the House of Delegates of The Medical Society of Virginia would endorse and support the World Medical Association, and urge the members of the Society to become individual members of the United States Committee, Inc., of the World Medical Association, and thereby aid in the elevation of standards of medical education and medical care throughout the world. Dr. Archer moved that the resolution be brought before the House of Delegates. This passed unanimously.

A brochure on voluntary pre-payment health insurance, prepared by the Medical Service Committee, was next considered. Dr. Hundley stated that the brochure was being presented to the Council for their approval in order that it might be distributed to members of the Society

for their own information and reading room material. Estimates received regarding cost of printing were read. It was suggested that Mr. Duval's opinion be secured before proceeding with the printing. It was then moved that the brochure be approved and that distribution begin after receiving a favorable opinion from Mr. Duval. A sum of \$400.00 was allocated for this purpose. This carried unanimously.

A resolution was then introduced which would invite members of the Student A.M.A. to meetings of the House of Delegates. This passed unanimously.

Considered next was a resolution of the Smyth County Medical Society, which requests the A.M.A. to contact the Department of Internal Revenue with regard to allowing expenses paid for post-graduate courses in medicine to be deducted for income tax purposes. The motion was made and carried that this resolution be approved by the Council and forwarded to the A.M.A.

Dr. Hundley then discussed the Santa Barbara Committee for Free Enterprise, which wished the support of the members of the Society in opposing socialist trends in this country. Since the medical profession and The Medical Society of Virginia in particular have already taken a stand on the side of free enterprise, it was believed wise to pass over the petition of the Committee at this time.

A report concerning the rental of office space in the headquarters building brought out the fact that only one room has been rented. Several non-medical applicants have been turned down at Mr. Duval's suggestion, since it was believed that our tax status might be affected. Dr. Archer moved that we abide by Mr. Duval's opinion and that our present policy be continued. This carried unanimously.

The question of whether the State Society should endorse the State's Medical Post-Graduate Association was next discussed. It was learned that many physicians interested in furthering graduate education had formed the Association with membership dues set at \$10.00 per year. The Medical Society of Virginia has been invited to join. It was mentioned that there would be no conflict with the A.M.A. Department of Post-Graduate Education, but rather, a coordination of efforts. It was moved that the Society approve the Association and pay dues of \$10.00 a year. This passed unanimously.

Courtesy membership in The Medical Society of Virginia for county health officers and staff members of medical schools was discussed, and it was deemed unwise to set up such a classification at this time.

Dr. Hundley then requested the Council to approve the appointment of a committee to work with the American Diabetes Association, as has been requested by them. The President would make the appointments. The motion was made and carried to approve such a committee.

In an effort to further streamline our bookkeeping, it was suggested that the special legislative fund, which was established in 1940, be abolished, and its funds turned back into the general fund. This would eliminate any duplication in the present bookkeeping system. The mo-

tion was made to transfer these funds to the general fund of the Society. This passed unanimously.

Dr. Horsley suggested that because of the many difficulties encountered in scheduling annual meetings, it might be well if the Society make arrangements at least two years in advance. There appeared to be no conflict in the Constitution and By-Laws, and the suggestion therefore appeared to be in order. Dr. Adams asked that dates be checked against the Jewish holidays inasmuch as the past two meetings have conflicted with their holiest season, and it would be preferable if there were no overlapping.

A survey of Tuberculosis in Virginia was reported by Dr. Hamner. It is sponsored by the State Health Department and the Virginia Tuberculosis Association, and is headed by Dr. Ennion S. Williams. The Society was requested to endorse the survey. The resolution of endorsement passed unanimously.

Approved JOHN T. T. HUNDLEY, *President*

FIFTY YEAR CLUB AWARDS

One of the especially pleasant duties of the first General Session is the awarding of certificates to the new members of the Fifty Year Club. These are conferred upon those who graduated fifty years ago, many of whom are still in active practice.

The awards were made on Monday evening, September 29, by the President, Dr. John T. T. Hundley when the following received this recognition:

Dr. Robert Eubank Booker, Lottsburg.
Dr. Thomas Henry Daniel, Charlottesville.
Dr. Clabe Baker Greear, Honaker.
Dr. Harry Weston Judd, Mineral.
Dr. Emlyn Harrison Marsteller, Jr., Manassas.
Dr. Henry Ward Randolph, Lilian.
Dr. Henry Cowles Rucker, Mattoax.
Dr. Harry Baylor Taylor, Norfolk.
Dr. John Thruston Thorton, Charlottesville.

The following should have been presented in 1951:

Dr. St. George Tucker Grinnan, Richmond.

COMMITTEES

The following Committees have been named to be in charge of the various activities of the Society during the year 1952-1953. Numbers after names in STANDING COMMITTEES indicate number of years to serve, these having been appointed for a definite term in accordance with the By-Laws.

Standing Committees

PUBLICATION: M. Pierce Rucker, M.D., *Chairman*, Richmond (2), Lewis H. Boshier, Jr., M.D., Richmond, Wyndham B. Blanton, M.D., Richmond (3), A. B. Hodges, M.D., Norfolk (1).

POSTGRADUATE MEDICAL EDUCATION: John T. T. Hundley, M.D., *Chairman*, Lynchburg; Mack I. Shanholtz, M.D., Richmond; Kinloch Nelson, M.D., Richmond; William Parson, M.D., Charlottesville; Mary E. Johnston, M.D., Tazewell; Joseph W. Chinn, M.D., Tappahannock.

ETHICS: H. H. Hurt, M.D., *Chairman*, Lynchburg (1); Malcolm H. Harris, M.D., West Point (2); H. S. Daniel, M.D., Louisa (3).

GRIEVANCE: W. C. Caudill, M.D., *Chairman*, Pearisburg (3); C. L. Harrell, M.D., Norfolk (4); Guy R. Fisher, M.D., Staunton (1); M. Pierce Rucker, M.D., Richmond (2); John T. T. Hundley, M.D., Lynchburg (5).

JUDICIAL: J. Morrison Hutcheson, M.D., *Chairman*, Richmond (1); Richard P. Bell, Jr., M.D., Staunton (2); J. D. Zylman, M.D., Falls Church (3).

LEGISLATIVE: J. D. Hagood, M.D., *Chairman*, Clover (1); W. C. Caudill, M.D., Pearisburg (1); Dean B. Cole, M.D., Richmond (1); Carrington Williams, M.D., Richmond (2); J. Edwin Wood, M.D., Charlottesville (3); Frank A. Farmer, M.D., Roanoke (3); M. S. Fitchett, M.D., Norfolk (2); Walter P. Adams, M.D., Norfolk (2); W. C. Elliott, Lebanon (3).

MEDICAL SERVICE: John O. Boyd, Jr., M.D., *Chairman*, Roanoke (1); Russell V. Buxton, M.D., Newport News (1); Harold W. Miller, M.D., Woodstock (1); William R. Pretlow, M.D., Warrenton (1); James P. Williams, M.D., Richlands (1); T. B. McCord, M.D., Fairfax (2); H. M. Frieden, M.D., Norfolk (2); John G. Graziani, M.D., Farmville (2); Charles L. Savage, M.D., Waynesboro (2); Snowden C. Hall, Jr., M.D., Danville (2).

MEMBERSHIP: W. R. Whitman, Sr., M.D., *Chairman*, Roanoke (1); George W. Leavell, M.D., Bristol (2); James A. Thweatt, M.D., Petersburg (3).

PUBLIC RELATIONS: James P. King, M.D., *Chairman*, Radford (2); Benjamin W. Rawles, Jr., M.D., Richmond (2); John W. Davis, M.D., Lynchburg (1); George A. Duncan, M.D., Norfolk (1); H. C. Bates, Jr., M.D., Arlington (3); Fred D. Maphis, M.D., Strasburg (3).

SCIENTIFIC EXHIBITS AND CLINICS: Eugene L. Lowenberg, M.D., *Chairman*, Norfolk (1); Hunter B. Frischkorn, Jr., M.D., Richmond (2); Allen Barker, M.D., Roanoke (3).

PROGRAM: Benjamin W. Rawles, Jr., M.D., *Chairman*, Richmond (2); Reverdy H. Jones, Jr., M.D., Roanoke (1); Ira L. Hancock, Jr., M.D., Creeds (3).

FINANCE: Harry J. Warthen, Jr., M.D., *Chairman*, Richmond (2); Walter B. Porter, M.D., Hillsville (1); Fletcher J. Wright, Jr., M.D., Petersburg (3).

Special Committees

CHILD HEALTH: McLemore L. Birdsong, M.D., *Chairman*, Charlottesville; Edwin L. Kendig, M.D., Richmond; Edwin A. Harper, M.D., Lynchburg; John M. Bishop, M.D., Roanoke; C. C. Powel, M.D., Harrisonburg; William E. Chapin, M.D., Richmond; Paul Hogg, M.D., Newport News.

ADVISORY TO WOMAN'S AUXILIARY: Waverly R. Payne, M.D., *Chairman*, Newport News; M. S. Andrews, M.D., Norfolk; Donald S. Daniel, M.D., Richmond.

MATERNAL HEALTH: H. Hudnall Ware, M.D., *Chairman*, Richmond; Edwin Rucker, M.D., Richmond; E. S. Groseclose, M.D., Lynchburg; Garrett Dalton, M.D., Radford; George S. Hurt, M.D., Roanoke; W. N. Thornton, Jr., M.D., Charlottesville; John R. Knight, M.D., Norfolk; W. L. McMann, M.D., Danville; L. L. Shamburger, M.D., Richmond; A. Tyree Finch, M.D., Farmville.

WALTER REED COMMISSION: H. A. Tabb, M.D., *Chair-*

man, Gloucester; Richard B. Bowles, M.D., Mathews; Clarence P. Jones, M.D., Newport News.

TO CONFER WITH STATE BOARD OF NURSE EXAMINERS: C. Bruce Morton, III, M.D., *Chairman*, Charlottesville; Russell V. Buxton, M.D., Newport News; John A. Shackelford, M.D., Martinsville; Eugene L. Lowenberg, M.D., Norfolk; Frank Johns, M.D., Richmond; Malcolm H. Harris, M.D., West Point; James M. Habel, M.D., Suffolk.

VENEREAL DISEASE CONTROL: James W. Love, M.D., *Chairman*, Alexandria; Harry Pariser, M.D., Norfolk; William H. Kaufman, M.D., Roanoke; W. Ross Southward, Jr., M.D., Richmond; Allen W. Pepple, M.D., Richmond.

TUBERCULOSIS: George A. Welchons, M.D., *Chairman*, Richmond; Wilkins J. Ozlin, M.D., South Hill; Everett C. Drash, M.D., Charlottesville; Carl W. LaFratta, M.D., Richmond; Charles W. Scott, M.D., Burkeville; Frank B. Stafford, M.D., Charlottesville.

MENTAL HYGIENE: David C. Wilson, M.D., *Chairman*, Charlottesville; Patrick H. Drewry, Jr., M.D., Richmond; James K. Morrow, M.D., Radford; John R. Saunders, M.D., Richmond; C. T. Wilfong, M.D., Richmond; Joseph R. Blalock, M.D., Marion; Edwin J. Palmer, M.D., Roanoke; Thomas Spessard, M.D., Norfolk; John P. Williams, M.D., Richmond; John A. Sims, M.D., Alexandria; Snowden C. Hall, M.D., Danville; Julian R. Beckwith, M.D., Clifton Forge; Thomas S. Edwards, M.D., Charlottesville; Thomas H. Anderson, M.D., Lawrenceville; Alexander G. Brown, III, M.D., Richmond; John B. McKee, M.D., Winchester; W. S. Hooten, M.D., Lynchburg; Landon E. Stubbs, M.D., Newport News.

CANCER: George Cooper, Jr., M.D., *Chairman*, Charlottesville; Arthur B. Gathright, M.D., Richmond; E. P. Lehman, M.D., Charlottesville; A. P. Jones, M.D., Roanoke; Joseph W. Houck, M.D., Lynchburg; Mason Romaine, M.D., Petersburg; Nelson Smith, M.D., Petersburg; John J. Giesen, M.D., Radford; Martin L. Dreyfuss, M.D., Clifton Forge; Charles H. Peterson, M.D., Roanoke; John R. Kight, M.D., Norfolk; A. C. Wyman, M.D., Alexandria; Frank D. Daniel, M.D., Charlottesville.

REHABILITATION: Roy M. Hoover, M.D., *Chairman*, Roanoke; Reno R. Porter, M.D., Richmond; George A. Duncan, M.D., Norfolk; J. R. Blalock, M.D., Marion; Edward E. Haddock, M.D., Richmond; Leroy Smith, M.D., Richmond; Frank B. Stafford, M.D., Charlottesville; A. L. Carson, Jr., M.D., Richmond; W. E. Dickerson, M.D., Danville; G. S. Fitz-Hugh, M.D., Charlottesville; Fletcher J. Wright, Jr., M.D., Petersburg; Charles L. Savage, M.D., Waynesboro.

CEREBRAL PALSY: O. Anderson Engh, M.D., *Chairman*, Alexandria; John A. Vann, M.D., Norfolk; Walter O. Klingman, M.D., Charlottesville; Louise F. Galvin, M.D., Richmond; Roy M. Hoover, M.D., Roanoke.

ADVISORY HEART COMMITTEE: J. Edwin Wood, M.D., *Chairman*, Charlottesville; Paul D. Camp, M.D., Richmond; R. B. Grinnan, M.D., Norfolk; John B. McKee, M.D., Winchester; Julian R. Beckwith, M.D., Clifton Forge; R. Earle Glendy, M.D., Roanoke; J. Franklin Waddill, M.D., Norfolk; Julian Q. Early, M.D., Bristol.

CONSERVATION OF HEARING: P. N. Pastore, M.D., *Chairman*, Richmond; Neil Callahan, M.D., Norfolk; James Gorman, M.D., Lynchburg; Fred Hamlin, M.D., Roanoke; Francis McGovern, M.D., Danville; Grant Preston, M.D., Harrisonburg; Fletcher Woodward, M.D., Charlottesville; J. H. Hopkins, M.D., Petersburg.

HOUSE COMMITTEE: Harry J. Warthen, Jr., M.D., *Chairman*, Richmond; Donald S. Daniel, M.D., Richmond; Fletcher J. Wright, Jr., M.D., Petersburg.

POLIO: Lee E. Sutton, Jr., M.D., *Chairman*, Richmond; R. B. Bowles, M.D., Mathews; E. A. Harper, M.D., Lynchburg; Robert C. Hood, M.D., Arlington; Roy M. Hoover, M.D., Roanoke; Albert S. McCown, M.D., Richmond.

CONSERVATION OF SIGHT: Rudolph C. Thomason, M.D., *Chairman*, Richmond; Parker H. Lee, Jr., M.D., Lynchburg; William F. Hatcher, M.D., Roanoke; F. O. Fay, M.D., Norfolk; Meade C. Edmunds, M.D., Petersburg.

LIAISON COMMITTEE TO CONFER WITH U. M. W. WELFARE FUND: John T. T. Hundley, M.D., *Chairman*, Lynchburg; Kinloch Nelson, M.D., Richmond; Mack I. Shanholtz, M.D., Richmond; John O. Boyd, Jr., M.D., Roanoke; Charles L. Savage, M.D., Waynesboro; James P. Williams, M.D., Richlands; Rufus P. Brittain, M.D., Tazewell.

COMMITTEE TO ASSIST AMERICAN DIABETES ASSOCIATION: William R. Jordan, M.D., *Chairman*, Richmond; Robert C. Crawford, M.D., Roanoke; W. Callier Salley, M.D., Norfolk; James G. Willis, M.D., Fredericksburg.

NATIONAL EMERGENCY MEDICAL SERVICE: Fletcher J. Wright, Jr., M.D., *Chairman*, Petersburg; Walter P. Adams, M.D., Norfolk; E. C. Drash, M.D., Charlottesville; R. P. Bell, Jr., M.D., Staunton; C. V. Amole, M.D., Alexandria; J. M. Hurt, M.D., Blackstone; Frank A. Farmer, M.D., Roanoke; Russell V. Buxton, M.D., Newport News; Kinloch Nelson, M.D., Richmond; Henry Bourne, M.D., Danville; Guy Richardson, M.D., Bristol; Mack I. Shanholtz, M.D., Richmond; James L. Hamner, M.D., Mannboro.

AMERICAN MEDICAL EDUCATION FOUNDATION: Marcellus A. Johnson, Jr., M.D., *Chairman*, Roanoke; Harry C. Bates, Jr., M.D., Arlington; L. H. Bracey, M.D., South Hill; Ira L. Hancock, M.D., Creeds; Malcolm H. Harris, M.D., West Point; Frederick D. Maphis, M.D., Strasburg; John R. Mapp, M.D., Nassawadox; Walter McMann, M.D., Danville; Richard C. Potter, M.D., Marion; Elam C. Toone, Jr., M.D., Richmond; T. S. Edwards, M.D., Charlottesville; James L. Chitwood, M.D., Pulaski; Lyddane Miller, M.D., Amherst; John H. Dellinger, M.D., Pennington Gap.

EXECUTIVE COMMITTEE OF COUNCIL: Guy W. Horsley, M.D., *Chairman*, Richmond; Vincent W. Archer, M.D., Charlottesville; Walter P. Adams, M.D., Norfolk.

IN MEMORIAM

MEMBERS OF THE MEDICAL SOCIETY OF VIRGINIA WHOSE DEATHS WERE REPORTED SINCE 1951 MEETING

The names of those members of The Medical Society of Virginia, whose deaths had been reported since the 1951 meeting, were read at a special ceremony at the General

Meeting on September 29. Dr. Harry C. Bates, a member of the Membership Committee, read the names as follows:

Dr. Tremain Ernst Armstrong, Hopewell.
Dr. Joseph Clary Blanton, Richmond.
Dr. George Wythe Booth, Rocky Mount.
Dr. Matt Otey Burke, Richmond.
Dr. James Breckenridge Dalton, Richmond.
Dr. William Miller Dick, Hampton.
Dr. William Willcox Dunn, Richmond.
Dr. Gerald A. Ezekiel, Richmond.
Dr. William White Falkener, Hampton.
Dr. John B. Fisher, Midlothian.
Dr. Russell Landram Haden, Crozet.
Dr. Bryant Eugene Harrell, Norfolk.
Dr. Claiborne Turner Jones, Petersburg.
Dr. Ernest R. Martin, Newport News.
Dr. William Irvine Owens, Pulaski.
Dr. John Catron Phipps, Fries.
Dr. Ralph Andre Quick, Arlington.
Dr. Elton Aubrey Ratcliffe, Richmond.
Dr. John Muscoe Garnett Ryland, Richmond.
Dr. John Cary Sleet, Norfolk.
Dr. Willie Strother Snead, Newport News.
Dr. Edmund Pendleton Tompkins, Lexington.
Dr. William Edgar Waddell, Lexington.
Dr. Robert Klaus Waller, Richmond.
Dr. Carl Wilma White, Danville.
Dr. Joseph Lee Wright, Harrisonburg.

AUDITOR'S REPORT

October 1, 1951—September 30, 1952

OFFICERS AND COUNCILORS
THE MEDICAL SOCIETY OF VIRGINIA
RICHMOND, VIRGINIA

GENTLEMEN:

We have made an examination of the books and records of THE MEDICAL SOCIETY OF VIRGINIA, Richmond, Virginia, for the fiscal year ended September 30, 1952, and have prepared therefrom the Balance Sheet, Exhibit "A" and Statement of Income and Expenses, Exhibit "B". With the exceptions noted in the immediately following paragraph, our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

We did not verify the accounts receivable by direct confirmation with the debtors, nor did we verify the accounts payable.

Subject to the exceptions stated in the preceding paragraph, it is our opinion that the accompanying Balance Sheet, Exhibit "A", and Statement of Income and Expenses, Exhibit "B", prepared on the cash receipts and disbursements basis, present fairly the financial condition of the Society at September 30, 1952, and the results of its operations for the year then ended in conformity with generally accepted principles of accounting, applied on a basis consistent with that of the preceding year.

Yours very truly,

MITCHELL, WIGGINS & SMITH

By R. E. WIGGINS

Certified Public Accountant

Financial Condition

The financial condition of the Society at September 30, 1952, is shown in the Balance Sheet, Exhibit "A", on the accrual basis. A summary thereof is presented below in comparison with the financial condition at September 30, 1951:

ASSETS	9-30-52	9-30-51
Cash	\$ 47,717.14	\$ 40,901.62
Accounts receivable	2,322.48	2,505.47
Investments—United States		
Bonds	33,341.00	32,373.00
Fixed assets	43,061.10	43,061.10
TOTAL—ALL FUNDS	\$126,441.72	\$118,841.19

LIABILITIES, SURPLUS AND FUND BALANCE

Liabilities:

Accounts payable	\$ 1,216.06	\$ 1,686.95
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Surplus:

General Fund	82,164.56	74,093.14
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Fund Balance:

Plant Fund	43,061.10	43,061.10
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TOTAL—ALL FUNDS	\$126,441.72	\$118,841.19
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Analyses and explanation of the more important balance sheet items follow:

CASH—\$47,717.14

All recorded cash receipts were accounted for by deposits in the banks, and disbursements were supported by properly signed and endorsed paid checks. Balances on deposit at September 30, 1952 were confirmed by direct correspondence with the banks as follows:

First and Merchants National Bank—Checking Account	\$32,578.47
First and Merchants National Bank—Savings accounts (2)	6,735.49
The Bank of Virginia—Savings account	7,400.43
Southern Bank and Trust Company—Savings account	1,002.75
TOTAL	\$47,717.14

INVESTMENTS—\$33,341.00

Investments, consisting of United States Savings Bonds, were verified by inspection of the securities held in the safe deposit box at First and Merchants National Bank, Richmond, Virginia. They are shown in the Balance Sheet at their current redemption value. Details of investments are shown in Schedule 1.

FIXED ASSETS—\$43,061.10

Details of the fixed assets carried in the Plant Fund are shown in Schedule 2. No indebtedness against these assets was disclosed by the records.

Operations

The income and expenses for the fiscal year ended September 30, 1952 are shown in Exhibit "B", prepared

on the cash receipts and disbursements basis. A summary of income and expenses in comparison with that of the preceding year is presented as follows:

	FISCAL YEAR ENDED	
INCOME	9-30-52	9-30-51
Membership dues	\$43,470.10	\$43,701.78
Medical monthly publication	18,122.56	17,678.97
Commercial exhibits and convention	2,030.61	4,568.54
Other income	662.79	816.94
TOTAL	\$64,286.06	\$66,766.23

EXPENSES

Executive office	\$56,348.70	\$87,527.82
Public relations department	1,130.64	823.24
TOTAL	\$57,479.34	\$88,351.06

INCOME OVER (UNDER)

EXPENDITURES	\$ 6,806.72 (\$21,584.83)
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Included in expenditures of the executive office for the fiscal year ended September 30, 1951 is the purchase of office building and equipment totaling \$35,367.00. For the current year, there were no charges for capital expenditures.

In General

During September 1952, the convening members of the Society approved a resolution to transfer all assets of the Legislative Committee-Special Fund to the General Fund, therefore, the activity in that fund for the year ended September 30, 1952 has been combined with the results of operations of the General Fund.

Insurance in force at September 30, 1952 determined from policies on file was as listed below:

FIRE

Office furniture and fixtures	\$ 6,000.00
Building—1105 West Franklin Street, Richmond, Virginia	26,000.00
Walter Reed House, Belroi, Virginia	2,000.00
Stock of books	1,000.00

SPRINKLER LEAKAGE

Stock of books	1,000.00
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LIABILITY—OWNER'S, LANDLORD'S, AND TENANT'S

Bodily injury	\$25,000.00 - \$50,000.00
Property damage	5,000.00

FIDELITY BONDS

Executive Secretary-Treasurer	5,000.00
Executive Assistant	5,000.00

Balance Sheet—September 30, 1952

Exhibit "A"
General Fund

ASSETS	
CURRENT ASSETS	
Cash in banks	\$47,717.14
<i>Accounts receivable:</i>	
Due from members—Estimated collectible value—1952 Dues—50 @ \$25.00	\$1,250.00
Advertising—Virginia Medical Monthly	1,072.48 2,322.48
TOTAL CURRENT ASSETS	\$50,039.62
INVESTMENTS	
United States Savings Bonds—Present value (Schedule 1)	33,341.00
	<u>\$83,380.62</u>
LIABILITIES AND SURPLUS	
CURRENT LIABILITIES	
<i>Accounts payable:</i>	
Preparation of Medical Journal—September 1952	\$1,207.26
Withholding tax	8.80 \$ 1,216.06
<i>Surplus:</i>	
Unrestricted—Available for appropriation	82,164.56
	<u>\$83,380.62</u>
PLANT FUND	
LAND AND BUILDINGS—At cost (Schedule 2) ..	\$35,061.10
OFFICE FURNITURE AND EQUIPMENT (Schedule 2)	
At cost	\$ 951.65
Estimated insurable value	7,048.35 8,000.00
	<u>\$43,061.10</u>
FUND BALANCE	\$43,061.10
	<u>\$43,061.10</u>

Statement of Income and Expenses
For the Fiscal Year Ended September 30, 1952
Exhibit "B"

	ACTUAL	BUDGET
GROSS INCOME		
Membership dues	\$43,470.10	
History of Medicine in Virginia ..	98.00	
Interest on savings accounts	168.78	
Commercial exhibits and conventions	2,030.61	
American Medical Association ..	396.01	
<i>Virginia Medical Monthly:</i>		
Advertising	\$17,765.34	
Subscriptions—Non-members	357.22 18,122.56	
TOTAL GROSS INCOME	\$64,286.06	

EXPENSES

Executive office:

Salaries	\$24,168.49	\$24,800.00
Telephone and telegrams	1,377.14	1,500.00
Postage	743.55	1,000.00
Stationery and office supplies ..	809.67	900.00
Office equipment—Repairs and replacements	447.51	500.00
Building maintenance and repairs	2,114.99	3,500.00
Convention expenses		500.00
Council expenses	108.35	425.00
Delegates and executive assistant to A.M.A.	1,708.57	2,300.00
President's expense	594.32	600.00
Traveling expense	1,030.96	2,000.00
Preparation and distribution of Medical Journal	15,706.99	16,000.00
Scientific exhibits	1,762.72	1,600.00
Department of Clinical and Medical Education	679.49	1,000.00
Walter Reed Commission	48.20	500.00
Cancer control	426.00	400.00
Woman's auxiliary	50.00	100.00
Membership dues—Affiliated agencies	60.00	60.00

Miscellaneous committees:

Maternal health		30.00
Medical service	32.00	
Child welfare	34.40	25.00
President's contingent fund		500.00
National Emergency Medical Service Committee		150.00

Special appropriations:

Virginia Council Health and Medical Care	2,000.00	2,000.00
National Society Medical Research	150.00	150.00
Social security taxes	336.42	375.00
Printing directory of members	120.50	500.00
Miscellaneous expenses	316.98	800.00
Legislative Committee	1,521.45	

TOTAL EXECUTIVE OFFICE \$56,348.70 \$62,215.00

Public Relations department:

Conference expenses ..	\$ 474.05	\$ 1,000.00
Radio and press	25.20	500.00
Literature and bulletins	595.99	500.00
Education campaign	35.40	200.00

TOTAL PUBLIC RELATIONS

DEPARTMENT	\$ 1,130.64	\$ 2,200.00
TOTAL EXPENSES	\$57,479.34	\$64,415.00

EXCESS OF INCOME OVER

EXPENSES FOR THE YEAR \$ 6,806.72

Fixed Assets	
September 30, 1952	
Schedule 2	
PLANT FUND	
LAND AND BUILDINGS—At cost	
Walter Reed House, Belroi, Virginia	\$ 1,000.00
Office building—1105 West Franklin Street, Richmond, Virginia	34,061.10
TOTAL LAND AND BUILDINGS	\$35,061.10
OFFICE FURNITURE AND EQUIPMENT	
Estimated insurable value at October 1, 1950	\$ 7,048.35

Purchased during year ended September 30, 1951:	
Adding machine	\$100.00
Addressograph-Multigraph stand	127.50
Protectograph—Check writer	110.30
Typewriter	156.20
File cabinets (2)	71.50
Vacuum cleaner	69.95
Desks and chairs (2)	316.20
TOTAL OFFICE FURNITURE AND EQUIPMENT	\$ 8,000.00
TOTAL FIXED ASSETS	\$43,061.10

Investment Bonds								
September 30, 1952								
Schedule 1								
TYPE OF BONDS	SERIES	NO. BONDS	DATED	DUE	VALUE AT MATURITY	COST	VALUE AT 9-30-51	VALUE AT 9-30-52
U. S. Savings	F	10	2-1-43	2-1-55	\$ 5,000.00	\$ 3,700.00	\$ 4,435.00	\$ 4,570.00
U. S. Savings	F	17	12-1-43	12-1-55	8,500.00	6,290.00	7,318.50	7,539.50
U. S. Savings	F	1	1-1-44	1-1-56	500.00	370.00	430.50	443.50
U. S. Savings	F	3	2-1-44	2-1-56	1,500.00	1,110.00	1,291.50	1,330.50
U. S. Savings	F	2	6-1-44	6-1-56	1,000.00	740.00	848.00	874.00
U. S. Savings	F	2	12-1-44	12-1-56	1,000.00	740.00	835.00	861.00
U. S. Savings	F	2	5-1-45	5-1-57	1,000.00	740.00	822.00	848.00
U. S. Savings	F	7	11-1-45	11-1-57	7,000.00	5,180.00	5,663.00	5,845.00
U. S. Savings	F	1	3-1-46	3-1-58	500.00	370.00	404.50	417.50
U. S. Savings	F	10	3-1-46	3-1-58	10,000.00	7,400.00	8,090.00	8,350.00
U. S. Savings	F	6	10-1-49	10-1-61	3,000.00	2,220.00	2,235.00	2,262.00
TOTALS					\$39,000.00	\$28,860.00	\$32,373.00	\$33,341.00

We regret that circumstances beyond our control prevent our publishing the minutes of the House of Delegates in this issue. However, the court reporters have promised to let us have the minutes at an early date, and every effort will be made to include them in the next issue of the MONTHLY.

EDITORIAL

Robley Dunglison—1798-1869

First Professor of Medicine at Virginia

ONE of the most influential figures in the development of early American medical education, and yet one who is surprisingly little-known to the present generation, was Dr. Robley Dunglison. A prolific writer, a profound thinker, and a sound and scholarly physician, Dunglison left his mark on three distinguished schools of medicine, and was perhaps far ahead of his time in visualizing proper goals as well as methods in the education of the physician.

Robley Dunglison was born on January 4, 1798, in the "Lake Country", at Keswick, Cumberland, in the heart of England. Until he was seventeen years old, his education was directed toward making him a merchant, so that he might take charge of the extensive planting interests in the West Indies of his great uncle, Joseph Robley. However, the opportune death of this wealthy relative not only relieved him of the distress of further mercantile education, but by inheritance supplied him with sufficient funds so that he could satiate a previously suppressed desire for a medical career. He studied medicine under a village physician in Keswick, and continued his studies in London as assistant to the famed Dr. Charles Thomas Haden, of Sloane Street. Later he attended a course of lectures in Edinburgh, as well as one at the "Ecole de Medicine" and several private courses in Paris, after which he passed examinations of both the Royal College of Surgeons, and the Society of Apothecaries in London. He began the practice of his profession in that city in 1819, but apparently feeling the need of further education, he attended the University of Erlangen, in Bavaria, and graduated by "examination" in 1823, presenting a thesis on neuralgia. On his return to London, he devoted his attentions primarily to the practice of obstetrics. He was made "Physician Accoucheur" to the Eastern Dispensary, and in 1824 announced a course of lectures on "The Principles and Practice of Midwifery" for the following October.

Dunglison could never be accused of being idle, and during this period of developing practice and increasing professional reputation, he found time to translate and edit Larrey's "Essay on Moxa", Magendie's "Formulary of New Remedies", and Hooper's "Surgeon's Vade Mecum". He contributed numerous articles to journals of the time, including the London Medical Repository, the Medical Intelligencer, the Annals of Philosophy, the Quarterly Journal of Science and the Arts, the London Quarterly Review, the Eclectic Review, and the Universal Review, and published an original work entitled "Commentaries on the Diseases of the Stomach and Bowels of Children". In addition, before he departed from England at the age of 26, Dunglison had become a member of the Royal College of Surgeons, the Society of Apothecaries, the Hunterian Society, the Medical Society of London, the Linnaean Society of Paris, the Royal Society of Arts and Letters of Nancy, the Societe de Medicine of Paris, the Royal Academy of Marseilles, the Society of Pharmacy of Paris, the Physico-Medical Society of Erlangen, and the Academic Society of Medicine of Marseilles. All of these activities did not dissipate entirely his remarkable energy, and in October, 1824, he married Harriette Leadam, the daughter of a London medical practitioner. Shortly after this marriage, a certain restlessness and a desire to take part in the growth and development of the New World became apparent.

During the first quarter of the nineteenth century, Thomas Jefferson had been

waging a recurring battle with Virginia legislators to have the small Albemarle Academy, later called Central College, in Charlottesville, converted to a state university. Mr. Jefferson, third president of the United States, but who preferred to be remembered as "The Author of the Declaration of Independence, of the Statute of Virginia for Religious Freedom, and Father of the University of Virginia", did not by any means limit his interest to politics. He was a recognized zoologist and botanist, amateur astronomer, inventor and philosopher. He corresponded frequently on the subject of medicine with Benjamin Rush, and his influence on American medicine in general and Dr. Robley Dunglison in particular must be recognized.

Mr. Jefferson planned the University of Virginia in detail, no detail, whether physical, financial, administrative or curricular, escaping his attention. He determined to obtain at any cost a faculty of unquestioned capability, and in 1825 wrote, "You know that we have all from the beginning considered the high qualifications of our professors as the only means by which we could give to our institution splendor and pre-eminence over all its sister seminaries". In 1824, Francis Walker Gilmer sailed for England, empowered to secure suitable individuals for the vacancies in the faculty of the University. The chair of medicine apparently offered the greatest difficulty, but in 1825 Robley Dunglison was induced to accept this chair, or "settee", as it was characterized by Dr. Oliver Wendell Holmes, since it included the Professorships of Anatomy, Physiology, Surgery, Materia Medica, Pharmacy and the History of Medicine. Ostensibly, he was to be the only teacher of medicine, but, in actuality, the professor of natural history gave instruction in chemistry, botany and comparative anatomy. Fortunately, after his arrival in Virginia, Anatomy and Surgery were replaced by Medicine in his duties, since, as Gross states, he "could not bear the sight of blood".

Dr. Robley Dunglison arrived in Charlottesville in February, 1825, after an arduous voyage of four months, accompanied by his young wife. At this time he was characterized as "a very intelligent and laborious gentleman", and "a fine looking and agreeable young man". With his customary industry he plunged into his new duties of educating some twenty medical students, as well as continuing his literary endeavors. The medical school was a source of theoretical knowledge only, since there were no patients, no hospital, and no practical clinical instruction. Jefferson recognized the importance of the latter, and at one time considered removal of the medical part of the University to Norfolk, where such might be available, but forebore in the hope that clinical facilities would develop later in Charlottesville, meanwhile offering the medical students a chance to "finish" at the better clinical facilities in Boston, New York, or Philadelphia. Mr. Jefferson was somewhat of a therapeutic nihilist, and Dr. Dunglison stated in his memoranda that "Mr. Jefferson was considered to have but little faith in physic, and has often told me that he would rather trust to the unaided or rather uninterfered with efforts of nature than to physicians in general. 'It is not', he was wont to observe, 'to physic that I object so much as to physicians' ". However, Jefferson knew more medicine than the average physician of his day, and was responsible for introducing Jennerian vaccination in Virginia, having experimented on his family with the cowpox. Old Mr. Jefferson was favorably impressed with young Dr. Dunglison, and engaged him as his physician, "submitting to his regimen without murmuring at suffering inflicted upon him for remedial purposes".

Under the guidance of Dunglison, the medical department of the University took shape and grew. Dunglison became a great friend of both Jefferson, and his near

neighbor, James Madison, and was often grateful for their advice and counsel. The Professor of Medicine was given permission to practice within the confines of the University, and later he was allowed to do consultation work. Funds were allocated for an anatomical theatre, and approximately 300 medical volumes were added to the library by Jefferson. In 1826, a dispensary attached to the school of medicine was established, in charge of the professor, who dispensed medical advice and treatment to all in need. This service was free to the poor, but a fee of fifty cents was required from others. Medical students were required to attend these clinics, and were enjoined "to examine the patients by the pulse, and other indications of disease, to ask them such questions as the Professor shall think pertinent and shall permit, and to acquire a practical knowledge of the process of Pharmacy by taking a part in the preparation of medicines". Professor Dunglison was a fluent lecturer, able to hold his students' attention in the discussion of dry details, as well as a rapid writer, rapid to the point of illegibility. He was highly regarded by students and colleagues alike, and his literary efforts shortly resulted in spreading his fame abroad. In 1832, his "Human Physiology", previously rejected by Philadelphia publishers, was printed in Boston; this became a standard work for students and went through eight editions. Shortly afterward, the profound "Medical Dictionary" was published and in 1897 this had had 23 editions. The great surgeon Samuel D. Gross, stated that "What Haller's great work accomplished for surgery in the eighteenth century, Dunglison accomplished for it in America in the nineteenth". During his nine years in Virginia he also published works entitled "Elements of Hygiene", "General Therapeutics", and a "Syllabus of Lectures on Medical Jurisprudence".

In 1834, Dunglison was elected Professor of *Materia Medica* and Medical Jurisprudence at the University of Maryland, but after a year in Baltimore, he accepted the appointment to the Professorship of the Institutes of Medicine at the Jefferson Medical College in Philadelphia. Shortly thereafter, dissension among the faculty resulted in a complete reorganization, in which Dunglison was instrumental, so that he became associated on the faculty with such men as Joseph Pancoast, J. K. Mitchell, R. M. Huston, Thomas Dent Mutter, Charles D. Meigs, and later S. D. Gross. During the reorganization, Dunglison displayed surprising administrative talents and for many years served as Dean at Jefferson. According to Dickinson, the rise and progress of that institution were in large measure due to the energy, reputation and leadership of Dunglison. His writing continued and he published textbooks and original articles too numerous to mention here. He was an enthusiastic participant at medical meetings and at the close of his career it was said that he belonged to more than one hundred different organizations. His outside activities were varied, and he loved music, being for some time President of the Musical Fund. He was a member of the Sydenham Society of London, the American Philosophical Society, and the Pennsylvania Institution for the Instruction of the Blind. He developed a remarkable interest in the problems of the blind, and, with William Chapin, issued a three-volume dictionary for the blind.

For the latter half of his life, Professor Dunglison was an invalid. Gout made him lame, cardiac disease made him dyspneic, and gallbladder disease gave him recurrent episodes of excruciating pain. Yet, despite all these infirmities, his many and varied activities continued; if he could not stand to lecture he would sit, and would often write long articles while propped up high on pillows. Finally, in 1868, the development of peripheral edema reached a point forcing him to retire, despite continued

intellectual vigor, and he died in 1869. His autopsy was described as a veritable pathological museum.

Robley Dunglison will be remembered, not as a scientist who contributed greatly to the realm of medical knowledge, but as a great physician and teacher, whose amazing vigor, coupled with his organizational and editorial ability, resulted in progressive trends in medical education during the infancy of the latter in this country.

HENRY W. MAYO, JR., M.D.

EDITOR'S NOTE: A paper presented at the Robert Wilson Medical History Club at Charleston, South Carolina, May 1, 1952.

Dr. Mayo is an alumnus of the University of Virginia School of Medicine, and is now connected with the Medical College of South Carolina.

SOCIETIES

Southwestern Virginia Medical Society.

The annual Fall meeting of the Society was held at the Governor Tyler Hotel in Radford, September 25, under the presidency of Dr. A. F. Giesen. The program in the afternoon, included the following papers:

Multiple Myeloma by Dr. Walter S. Schiff, Marion

Panel: Public Relations on the Local Level, Dr.

James P. King, Radford;

The Individual Approach, Robert I. Howard of The Medical Society of Virginia, Richmond;

The Committee Approach, Dr. M. A. Johnson, Jr., Roanoke;

Working with Other Groups, Dr. Fred D. White, Roanoke; and

Good Press-Radio Relations, Dr. Edward E. Haddock, Richmond.

At the business session, Dr. Frank A. Farmer, Roanoke, was elected president; Dr. Richard C. Potter, Marion, vice-president; and Dr. James L. Chitwood, Pulaski, secretary-treasurer. Hotel Lincoln at Marion was selected for the Spring meeting, the date to be named later.

Following a social hour and banquet, Dr. R. B. Robbins, Camden, Arkansas, president of the American Academy of General Practice, gave an address on "Socio-Economic Aspects of Medicine".

Northern Neck Medical Association.

Dr. Paul C. Pearson, Warsaw, became president of this Association at its meeting on October 23, succeeding Dr. Melvin Lamberth of Kilmarnock. Also elected at this meeting for the coming year were:

Dr. Harold E. Sisson of Warsaw as president-elect, and Dr. James Motley Booker of Lottsburg as vice-president. Dr. William H. Matthews of White Stone is secretary-treasurer.

Lynchburg Academy of Medicine.

The regular monthly meeting of the Academy was held October 13th at the Lynchburg General Hospital. Dr. Alto E. Feller of the University of Virginia spoke on, "Common Respiratory Diseases".

Two new members were elected to full membership in the Academy.

The Midtidewater Medical Society

Met on October 28th at Gloucester, and elected Dr. W. H. Hosfield of West Point as president for 1953 and re-elected Dr. M. H. Harris, also of West Point, as secretary. Drs. Carl Broadus and W. H. Stout were admitted to membership.

An excellent panel discussion of Gastro-intestinal Hemorrhage was conducted by Dr. Chas. M. Caravati, moderator, assisted by Drs. Donald S. Daniel and D. D. Talley, III. The speakers were from Richmond.

The next meeting of the society will be held at West Point on the fourth Tuesday in January 1953.

The Fairfax County Medical Society

Met on October 14th, at the home of Dr. Robert Muilenberg in Falls Church.

The annual dinner to be held in November was discussed, and it was decided to hold the affair at the Belle Haven Country Club, on November 26, if possible.

The new president, Dr. Claude Cooper, announced

a list of committees and their chairmen as follows:

Program ----- Dr. Gerard J. Inguagiato
 Liaison with the Community Chest &
 Membership ----- Dr. Robert Hunt
 Publicity & Public Relations ----- Dr. Alice Kiessling
 Instructive Visiting Nurse Association ----- Dr. T. B. McCord
 Cancer Detection ----- Dr. J. Zylman
 Grievance ----- Dr. E. Waring
 Civil Defense ----- Dr. Thomas Haggerty
 Public Health and Schools—The Health
 Officer ----- Dr. Kennedy

The next meeting will be the annual dinner meeting, which is expected to be held at the Belle Haven Country Club, and which will include wives of members and guests.

Alice H. Kiessling, M.D.

Roanoke Academy of Medicine.

At the meeting of the Academy on November 3, Dr. J. E. Gardner presiding, papers were presented as follows:

The Differential Diagnosis of Vertigo by Dr. J. Lawson Cabaniss;

The Mechanisms and Management of Anemia by Dr. C. L. Crockett, Jr.; and a motion picture film, "Without Fear", presented and discussed by Dr. James P. King of Radford. It was produced by the International Machinists Union and reveals a vituperative attack on the medical profession.

Richmond Academy of Medicine.

At the meeting of the Academy on November 11, papers were presented by Dr. Jack Freund on "The Role of Radiosodium in Evaluating Therapy in Peripheral Vascular Disease", and by Drs. William Harris, Jr., and George W. Fishburn on "Subacute Staphylococcus Aureus Endocarditis: Recovery Following Combined Antibiotic Therapy". Dr. Guy W. Horsley presided.

Drs. Wyndham B. Blanton, Jr., Frank Blanton and Herbert W. Park were elected to membership.

NEWS

Virginia Obstetrical and Gynecological Society.

Fifty-one members and guests were present at the September 30 luncheon and business meeting in the Commonwealth Club. This unusually large turn-out was undoubtedly due to the excellent scientific program which took place afterwards in the Jefferson Hotel. Dr. Gordon Douglas of New York City, our distinguished guest speaker, spoke on the indications for hysterectomy to a large audience consisting not only of our society but the general membership of the Medical Society of Virginia as well. His address was followed by an Obstetrical and Gynecological Symposium which was participated in by Dr. Douglas and our own Doctors Kight, Payne, Spalding, Thornton, and Ware.

At the business meeting an important amendment to the By-Laws was moved and carried. Article VI was amended to read as follows: Delinquency in dues or attendance of meetings in two successive years shall be considered cause for automatic expulsion from the society unless excuse, satisfactory to the society, is made in person or by letter. Members thus expelled must, in order to be reinstated, go through the same process of application as any new member.

Seven applicants were voted into membership in the society.

Dr. Chester L. Riley of Winchester was elected to the office of President-Elect. Dr. Chester D. Bradley of Newport News was re-elected to the office of Secretary-Treasurer. Dr. Spalding of Richmond, retiring President, relinquished the office to Dr. John R. Kight of Norfolk.

Virginia Diabetes Association.

At the annual meeting of the Association held at the time of the State Meeting in Richmond, the following officers were elected for the coming year: President, Dr. C. D. Nofsinger, Roanoke; Vice-Presidents, Dr. Robert Bailey, Jr., Richmond, and Dr. Tom Edwards, Charlottesville; Secretary-Treasurer, Dr. William A. Read, Newport News.

The Clinical Meeting of the Society was held on the afternoon of November 7th at the auditorium of the Medical College of Virginia. There were seven papers and the guest speaker was Dr. Alexander Marble of Boston. Also at this meeting of the Society it was decided to sponsor a program on diabetes to be given on the Sunday preceding the meeting of the State Academy of General Practice. This pro-

gram will be put on by the Virginia Diabetes Association on May 6, 1953. It was felt by the Society that if this meeting was successful it should be made an annual affair as in this way the purpose of the Society which is primarily educational would be most apt to be fulfilled.

All members of the State Society are cordially invited to become members of the Virginia Diabetes Association. They need only to write to the Secretary who will place them on the roll. Initiation fee is five dollars and annual dues three dollars.

The Virginia Society for Pathology and Laboratory Medicine

Held its annual meeting on October 1, at the Jefferson Hotel in Richmond. The following officers for the coming year were elected: President, Dr. M. L. Dreyfuss, Clifton Forge; Vice-President, Dr. Arnold J. Rawson, Norfolk; Secretary-Treasurer, Dr. W. D. Dolan, Arlington.

Among the many matters discussed was a plan to establish a Committee on Pathology within the structure of the State Medical Society which would serve as an information and advisory committee on matters pertaining to Pathology.

It was decided to continue and expand the program of evaluation of laboratory techniques which has been underway for more than a year. This self-evaluation has as its purpose uniformity and increased accuracy in results of tests performed in laboratories supervised by members of the Society. It was also decided to conduct a scientific meeting during the coming year jointly with the Virginia Society of Medical Technologists. This meeting will take place in Richmond on January 17, 1953.

The Society joined with the State Health Department and the Department of Legal Medicine, Medical College of Virginia in sponsoring the Medico-Legal Symposium held in conjunction with the annual meeting of the Medical Society of Virginia.

The Virginia Section, American College of Physicians,

Held a business luncheon meeting at the Rotunda Club, Jefferson Hotel, Richmond, September 30. In the election of officers, Dr. John B. McKee of Winchester was named chairman and Dr. James F. Waddill of Norfolk was re-elected secretary-treasurer. Seventy-five members were present. Dr. Charles M.

Caravati of Richmond is governor of the College for Virginia.

Virginia Urological Society.

At the luncheon meeting of this Society at the Hotel John Marshall on September 30, the following officers were elected for the ensuing year: President, Dr. Warren W. Koontz of Lynchburg; vice-president, Dr. T. B. Washington of Richmond; and secretary-treasurer (re-elected), Dr. Wm. Russell Jones, Jr., also of Richmond.

Virginia Orthopedic Society.

At a luncheon meeting of this Society on September 30, Dr. Prentice Kinser, Jr., of Danville was elected president; Dr. Bernard Packer of Richmond was named vice-president; and Dr. Allen M. Ferry of Arlington was re-elected secretary-treasurer.

The Virginia Pediatric Society held a luncheon meeting on the 30th of September, but this was purely social and no business was transacted.

The Virginia Society of Anesthesiologists also had a "get together" luncheon the same day, but will not hold their election of officers until their annual meeting in March.

A. Murat Willis Oration.

Dr. Paul Douglas White, cardiologist of Boston, delivered the first annual A. Murat Willis Oration at the Richmond Academy of Medicine Building, October 29. The oration was established in memory of Dr. A. Murat Willis, a prominent Richmond surgeon who was also instrumental in establishing several independent hospitals in the State. Dr. White's subject was "Personal Experiences in Cardiology". Dr. White came to Richmond upon the invitation of the Johnston-Willis Ex-House Staff Association of which Dr. Harry L. Denoon of Nassawadox is president. Dr. White was the honor guest at the group's annual dinner meeting at the Commonwealth Club.

Lieutenant John M. Stoneburner,

Son of Dr. and Mrs. L. T. Stoneburner, Jr. of Richmond, has been awarded the Bronze Star Medal for outstanding valor in Korea. He earned the decoration during the 1952 Summer-Fall offensive. Lt. Stoneburner, who is a graduate of the Medical College of Virginia, is presently assigned to the station hospital at Fort Monroe, Va.

Dr. F. J. Spencer

Has resigned from the Giles-Montgomery-Radford Health District, effective September 19. No replacement has been made as yet.

Dr. Porter Honored.

Dr. William Branch Porter, professor of medicine since 1927 and chairman of the Department of Medicine at the Medical College of Virginia, was presented a silver stethoscope head at a meeting on October 23, which marked the formation of a society named in his honor. The Society is named the William Branch Porter Society and was formed by thirty-four of his former residents who presented him with the engraved stethoscope head and a scroll. The presentation was made by Dr. Harry Walker.

Dr. Harold W. Kinderman,

Who lived for a time in the White Stone-Kilmarnock section upon his return from a job in Africa after his retirement from the Army, has been appointed chief medical director of the State Penitentiary system, succeeding Dr. Herman L. Whitmore, deceased. He entered upon his new duties the latter part of October.

Dr. Plunkett Appointed Secretary of Committee on Mental Health.

Dr. Richard J. Plunkett, of Winnetka, has been appointed secretary of the newly established Committee on Mental Health of the American Medical Association. The appointment was made by the association's Board of Trustees. Dr. Plunkett has been a member of the A.M.A.'s editorial staff for the last five years.

The committee, established in March, 1952, was formed primarily to consider problems that exist today in psychiatry and mental health.

Dr. Leo H. Bartemeier, Detroit, is chairman of the committee.

A Tumor Clinic

Has been organized and approved at the Louise Obici Memorial Hospital, Suffolk. The first meeting was held at 4:30 P.M. on Tuesday, November 25th in the X-ray Department of that hospital, and subsequent meetings will be held at the same time on the second and fourth Tuesdays of each month. Any patient, indigent or otherwise, may be referred to the clinic. All patients will be sent back to the referring physician with a summary of the findings

and recommendations. The Clinic as such will not undertake specific therapy.

Correspondence may be addressed to Tumor Clinic, Louise Obici Memorial Hospital, Suffolk, Virginia.

Dr. Rudolph C. Thomason,

Richmond, has been elected president of the Hermitage Country Club for the succeeding year.

Dr. W. A. Pennington,

Buckingham, was elected president of the Virginia Wildlife Federation at the new organization's first convention, the latter part of October.

"Let Your Light So Shine."

This year's Christmas Seal with its candle is a symbol of Hope which can be lighted only if you buy and use Christmas Seals!

Tuberculosis associations throughout Virginia will ask you to support the campaign in your own community. As a physician you will be able to render a service far beyond your usual monetary contribution if you will impress upon your patients, their families and your neighbors, the fact that tuberculosis is still the greatest single public health problem which we face today. Dispel the prevalent idea that TB is on the way out. The so-called miracle drugs have not performed miracles and the need for more hospital beds, chest surgery and other scientific aids has been intensified in the plan for the eradication of this disease.

Your local tuberculosis association may be a well established organization which is carrying on a well balanced program of health education, case-finding, rehabilitation and research or it may be a small struggling committee—in either case it needs your support. Much has been accomplished, but there is a great deal to be done. So long as we have a reservoir of tuberculosis infection which produces 115,000 active cases each year in the United States, we cannot afford to rest on our laurels.

Let your light so shine among men that it will be directed upon the truth about tuberculosis in Virginia.

Pan American Medical Association.

The twenty-fifth Anniversary Cruise-Congress will be held aboard the S.S. "Nieuw Amsterdam", January 7-19, 1953. The itinerary will include leaving New York City, January 7, and visiting at Port-au-Prince, Haiti, at Cartagena, Columbia, Cristobal,

Panama, and Havana. The American Express Travel Company will handle all reservations subject to the approval of the Association. The registration fee is \$25 for each passenger, payable to the Pan American Association at 745 Fifth Avenue, New York 22, N. Y. Rates for the twelve days are \$300 up, no U.S. tax. This is the ultimate in cruising luxury and the scientific discussions will be of widespread interest.

The American College of Chest Physicians

Will hold its nineteenth annual meeting at the Hotel New Yorker, New York City, May 28-31, 1953.

Physicians who wish to present papers at the meeting should submit titles and abstracts to Dr. Arthur M. Olsen, Chairman, Committee on Scientific Program, American College of Chest Physicians, Mayo Clinic, Rochester, Minnesota.

The American College of Physicians

Will hold its Annual Regional Meeting for the State of Virginia at the Veterans Administration Hospital, Hampton, Va., on February 26, 1953. Dr. Charles M. Caravati, of Richmond, is the College Governor for Virginia and Dr. John McKee, of Winchester, is the Chairman of the Virginia group.

Duke Medical Symposium.

The fifteenth annual symposium will be held at Page Auditorium on the West Campus of Duke University at Durham, N. C., on December 9 and 10. Advances in therapy will be discussed by authorities who are nationally known in their fields. Virginia doctors are invited to attend.

Blood Needed for Our Fighting Men.

No longer is the man in battle the only fighting man to be shedding blood in defense of his country. Now, every one can make a direct contribution to the job of defeating the enemy and saving the lives of combat soldiers by donating blood for the Armed Forces. Find out when the Bloodmobile is to visit your city and arrange to donate a pint of blood to the cause.

Laboratory Refresher Training Courses

Will be given by the Communicable Disease Center from one to four weeks during the year January 1—December 31, 1953. Information and application forms should be requested from Laboratory Training Services, Communicable Disease Center, U. S. Public Health Service, P. O. Box 185, Chamblee, Georgia.

GP To Be Congratulated.

GP was among the outstanding magazines to be honored by the American Institute of Graphic Arts at its annual exhibition this Fall and was presented with a certificate for its excellence in graphic presentation.

Medical Staff Conferences at Winchester Memorial Hospital.

Two conferences—October and November—have already been held at the Winchester Memorial Hospital. Resuming them again in January, they will be as follows:

Wednesday, January 14, 1953—"Cervico-Brachial Pain"—J. Hamilton Allen, M.D., Professor of Orthopedic Surgery, University of Virginia.

Wednesday, February 18, 1953—"Symposium on the Toxemias of Pregnancy"

R. L. Hughes, M.D., Winchester

Arthur L. Wilson, M.D., Winchester

John C. Hortenstine, M.D., Winchester

William P. McGuire, M.D., Winchester

Wednesday, March 18, 1953—"Intestinal Obstruction"—Carrington Williams, M.D., Richmond

Wednesday, April 22, 1953—*The Annual Hunter H. McGuire Lecture*

"The Circulation in Pregnancy"—C. Sidney Burwell, M.D., Research Professor of Clinical Medicine, Harvard University, Boston

Wednesday, May 20, 1953—Clinical Pathological Conference

George H. Murphy, M.D., Winchester

All physicians are invited to attend these conferences.

OBITUARIES

Dr. Linwood D. Keyser,

Who died on October 12, 1952, was one of the prominent physicians and surgeons of Virginia. A graduate of the University of Virginia, Johns Hopkins University and the Mayo Foundation, he was one of the founders of the Virginia Urological Society.

He did a great deal of research on the formation and dissolution of urinary calculi and was a leader in this field. He was president of the Roanoke Academy of Medicine in 1944, he was also a member of the University Academy of Science and the American Association For The Advancement of Science. He was prominently associated with the Memorial and Crippled Children's Hospital for many years. The Roanoke Academy of Medicine feels it has lost an outstanding physician and surgeon of this community.

THEREFORE, BE IT RESOLVED that the members of the Roanoke Academy of Medicine feel the community and medical fraternity has suffered an irreparable loss in the death of this esteemed and distinguished member.

BE IT FURTHER RESOLVED that a copy of this Resolution be sent to his nearest relatives and the VIRGINIA MEDICAL MONTHLY.

W. W. S. BUTLER
CHARLES M. IRVIN
W. L. POWELL, *Chairman*

Dr. Percy B. Stokes.

The Norfolk County Medical Society views with deep regret the passing of a friend and associate, Dr. Percy B. Stokes. A native of Ruffin, North Carolina, he died on September 6th at Blowing Rock, that State.

He received his pre-medical education at the University of North Carolina and completed his medical education at the Medical College of Virginia, practiced in Canada and King's Mountain, North Carolina. Early in the 1930's he moved to New York City where he was a resident at King's County Hospital in Eye, Ear, Nose and Throat. In 1934, with Dr. C. M. McCoy, he established the McCoy-Stokes Hospital, Norfolk, where he continued to practice his specialty.

BE IT RESOLVED the Norfolk County Medical Society extends its sincere sympathy to his widow Mrs. Mary Lyall Stokes and two sons.

And BE IT FURTHER RESOLVED that these sentiments be spread upon the minutes of the Norfolk County Medical Society and that a copy be sent his family.

(Signed) BROCK D. JONES, JR., *Chairman*
C. M. MCCOY
W. R. TYSON

Dr. St. George Tucker Grinnan,

One of Richmond's oldest physicians, was injured fatally and died November 10, after having been struck by a truck near his home. He was 82 years of age and a graduate of the University of Virginia in 1901. He shortly afterwards located in Richmond where he practiced until his retirement several years ago. He served as professor of pediatrics at the Medical College of Virginia for twenty-three years, and was later named professor emeritus of pediatrics. He also served for a time as chief pediatrician at the Crippled Children's Hospital. He was a life member of his State and several other organizations.

He is survived by three sons and two daughters.

Dr. Richard Mason,

The Plains, died September 23, after an illness of three years. He was 84 years of age and graduated from the University of the South, Sewanee, Tenn., in 1898, and shortly thereafter returned to his former home at Marshall. In two years he located at The Plains where he continued his practice until forced to retire. For many terms he was president of the Fauquier County Medical Society, and was for sometime president and chairman of the Board of the Physicians' Hospital. He was a member of The Medical Society of Virginia and a member of its Fifty Year Club.

Dr. Achilles L. Tynes,

Prominent physician of Staunton, died October 26, after having been in bad health for some years. He was seventy-nine years of age and had graduated from the former University College of Medicine, Richmond, in 1898. He located first in Augusta County, moving to Staunton in 1908, where he practiced until his retirement. He was for sometime city health officer. He had long been a member of The Medical Society of Virginia of which he was also a life member. His wife and several children survive him.

Dr. J. Gordon Boisseau,

For more than twenty-five years a member of The Medical Society of Virginia, died at his home in Richmond, November 8, at the age of sixty-three. He was a graduate of the Medical College of Virginia in 1914. During World War I he served with the rank of major in the Field Artillery, was a former commander of the American Legion Post 151, a Mason and Shriner. He is survived by his wife, mother and several brothers and a sister.

Dr. Robert Page Cooke,

One of the last survivors of Walter Reed's famous yellow fever experiments in Cuba, died at his home near Lexington, October 27. While serving as a surgeon in the American Army, he volunteered to take part in Dr. Reed's research. For his part in the experiments, Dr. Cooke received a special medal awarded by Congress. After his return from the Army, he engaged in private practice and later in health work in Virginia, retiring five years ago. He was a graduate of the University of Virginia in the class of 1897, and was an honorary and life member of The Medical Society of Virginia. His wife and two daughters survive him.

An appreciation of Dr. Cooke appears in the editorial pages of the September 1952 *Monthly*.

Dr. Alvah L. Herring,

Well known surgeon of Richmond and until recently president of Grace Hospital, this city, died October 24, after being in bad health for a couple of years. He was sixty-six years of age and graduated from the former University College of Medicine in Richmond in 1910. He joined The Medical Society of Virginia the following year and was also identified with several other medical organizations. During World War I, he served overseas with the McGuire Unit Base Hospital. Upon returning, he practiced surgery and became president of Grace Hospital in 1929, which position he held until two years ago. His wife and a son, Dr. A. L. Herring, Jr., and large family connection survive him.

Dr. William Cloud Harman,

Of Dolphin, died at a Richmond Hospital, October 13, as the result of injuries received when he was struck by an automobile near his home. He was seventy-seven years of age and a graduate of the Maryland Medical College in 1913. He had practiced in Dolphin since 1915 and been a member of The Medical Society of Virginia for thirty-seven years. He was for many years an interested attendant at the annual sessions. He is survived by his wife and two daughters.

Dr. John B. Bullard,

Richmond physician, died October 29. He graduated from the North Carolina Medical College in 1917, and had been a general practitioner in Richmond for more than thirty years. Shortly after graduation, Dr. Bullard entered the army in World War I and was commissioned a captain. Following

the war, he located in this city where he had since practiced. He was for a time on the teaching staff of the Medical College of Virginia, and was a Mason. He had been a member of The Medical Society of Virginia since 1920 and was also a member of several other medical societies. He is survived by his wife and two children.

John Bullard had many friends who understood and loved him. Those who knew him well realized that his passing means a loss to the city of Richmond as well as, to the profession.

THEREFORE, BE IT RESOLVED: that the Richmond Academy of Medicine express its deep sorrow in the loss of our friend and fellow member.

AND BE IT FURTHER RESOLVED: that these resolutions be recorded in the minutes of the Richmond Academy of Medicine, and that copies be sent to the family and the *Virginia Medical Monthly*.

A. S. LILLY, *Chairman*

STEWART GILMAN

CHARLES OUTLAND

Dr. Richard Ovid Rogers,

Bluefield, West Virginia, died on November 4 of a heart attack while driving home from work. He was a native of Surry County, Virginia, was seventy years of age, and a graduate of the Medical College of Virginia in 1907. He had always kept his membership in The Medical Society of Virginia. He helped organize the Clinch Valley Clinic at Richlands, the Stevens Clinic at Welch, W. Va., and collaborated in enlarging the Bluefield Sanitarium. He is survived by his wife and two children, one of them Dr. R. O. Rogers, Jr. of Philadelphia.

Dr. Robert Hay Taylor,

Of Sykesville, Maryland, died October 12. He was born in 1913 and graduated from the Medical College of Virginia in 1941. He was for a time a resident of this State. His wife and a daughter survive him.

Dr. Leroy L. Sawyer, Jr.

Prominent audiologist of Washington, D. C., died unexpectedly November 9. He was a native of Great Bridge, Virginia, and was fifty-four years of age. He graduated from the Medical College of Virginia in 1922. He was a staff surgeon at several Washington hospitals, a member of the board of trustees and a surgeon at the Episcopal Eye, Ear and Throat Hospital, and was assistant professor of otolaryngology at the George Washington University Medical School. Surviving are his wife and two daughters.

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